# Stereo Revie

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Cover

Separate components, such as Rotel's RSP-960AX surround-sound processor and Marantz's MA500 single-channel power amplifiers, provide flexibility in a home theater system. See page 68.

Photograph by Jook P. Leung

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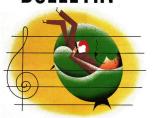
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#### CHILL OUT

Sensitive to the global increase in personal stress, Pioneer is promoting in Japan its Bodysonic chair, which soothes an occupant by vibrating in sync with relaxing music. Sales have been limited by the price of the chair (1.5 million yen, or about \$15,000), but Pioneer is optimistic about the future of the system, which also makes it possible to feel videos as you watch. The Bodysonic chair was demonstrated at CES last year, but at present the only Bodysonic products Pioneer U.S.A. is marketing are for the car, \$300 to \$520 "speaker systems" that fit onto the backs of the seats so riders can feel the music playing

on the car's stereo system. A hit in Japan, the "Baby Soother" cassette/CD calms babies with a series of rhythmic sounds said to be similar to those in a mother's womb. British Technology Group, of Guelph Mills, Pennsylvania, which represents the inventor of the Baby Soother, is seeking a company to manufacture and sell the device in the U.S.

Among the winners of Discover magazine's fifth annual Discover Awards for Technological Innovation are two products that have appeared in STEREO Review's CES "Showstopper" roundups: the Digital Satellite System (DSS) pioneered by DirecTV and BCA and the NoiseBuster noise-canceling headset from Noise Cancellation Technologies (NCT), Five finglists were selected in each of seven categories from a pool of more than 4,000 nominations. Winners were chosen by independent judges in each category. Warner Bros. Records and affiliated record labels are now previewing upcoming music releases on America Online and CompuServe. Subscribers can download

SPEAKER RECIPES Want to build your own speakers, but with a little help from the pros? Plans for seven different speaker systems, including four Signature Series designs by speaker guru Vance Dickason (author of The Loudspeaker Design Cookbook), are outlined in a 28-page booklet available from Polydax. Each speaker plan includes a parts list, construction diagrams, placement recommendations, comments from the designer, and response graphs. For a copy of Kit Plans: Build Your Own Loudspeakers and details on how to get kit components, write to Polydax Speaker Corp., 10 Upton Dr., Wilmington, MA 01887; or telephone 508-658-0700.

30-second samples of releases before they arrive in stores. . . . KEF is offering a limited-edition Signature Series of speakers in honor of its founder, Raymond E. Cooke. The three-model lineup includes a new version of the famous LS3/5a designed for the British Broadcasting Corp. (\$1,450 a pair in teak, \$1,650 in rosewood). The speakers must be special-ordered through authorized KEF Signature Series dealers.

An independent survey conducted for Yamaha shows that U.S. consumers are more knowledgeable about home theater now than they were a year ago, yet only 38 percent of audio/video sales personnel said that as many as half of the potential customers in their stores are familiar with the name "Dolby." . . . Mid-year figures released by the Recording Industry Association of America indicate that the dollar value of shipments of recordings in 1994 increased 11.9 percent over the first six months of last year to reach a record total of \$4.8 billion. . . . The soundtrack recording of Disney's The Lion King became the best-selling album released in 1994, with sales of 5 million units in only three months. . . Deutsche Grammophon says that more than 1 million CD's and tapes in its "Mad About"

series of classical recordings were sold in its first year. and the purchasers represent every age group from under 18 to over 60. The supposedly apathetic Generation X (age 26 to 30) led with 14 percent of the sales.

#### VCR FIXIN'S

VCR's top the list of products taken in for repair to Radio Shack stores since the chain began handling out-ofwarranty repairs for majorbrand electronic products last summer, according to Henry Chiarelli, vice president of retail services for Radio Shack's parent, Tandy Corp. It seems that children (we presume) have a penchant for putting coins and other small objects into the cassette wells. "We've seen VCR's with a lot of peculiar things in them, Chiarelli said, adding that another common problem is tapes jammed into decks upside-down

Telephones are next on the most-often-repaired list, followed by camcorders, personal electronics (Walkman-type tape players, etc.), and, finally, audio products. including receivers, turntables, and CD changers.

#### **AUTOSOUND ANNEX**

Bose sound systems are being offered as options in two new 1995 luxury sedans: the Mazda Millenia and the Oldsmobile Aurora. The Millenia system (\$1,200) features six speakers and a trunk-mounted six-disc CD changer: the Aurora system (\$1.131) features seven speakers, including an Acoustimass bass module, and a twelve-disc CD changer. . . . Options for Ford's new 1995 Windstor minivan include a seven-speaker Ford JBL system (\$510 with "preferred equipment" luxury package)

and a ten-disc CD changer

(\$500) that's mounted in the

console between the driver

and front passenger seat.



BUT WE THINK YOU'LL FIND THIS FIRST FEW DOZEN FROM VIDEO MAGAZINE'S TECHNICAL EDITOR LANCE BRAITHWAITE COMPELLING ENOUGH TO MAKE PROTON'S NEW LINE OF HIGH-END MONITOR/RECEIVERS WORTH A CLOSER LOOK: ■

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# LETTERS

#### "Consumer Reports"

As a former audio industry professional and a long-time reader of both STREEO REVIEW and Consumer Reports, please let me add my two cents' worth to the debate begun by Julian Hirsch in his September Tech Talk' column. Jagree with almost all of what Mr. Hirsch said, but I wish he'd given more attention to what I consider given more attention to what I consider Geometric Mr. State of the Consumer Reports: the frequency-of-repair records.

It's no normally difficult to decide why I like one product more than another-and quality, ergonomics, wife-acceptance factor, or what have you. But if I know that a particular product (a car, a cassette deck, or a lawn mower) is more likely to need repair than a similar product from another mantan more another than a lawn mower) is more likely to need repair than a similar product from another mantan andio salesperson might not care to tell me that a certain tape deck tends to speed a lot of time on the repair bench, but Consumer Reports can—and saves me a lot of grief in the process.

There is no such thing as too much information. Consumers need to know as much as they can to make informed purchases. STEREO REVIEW and Consumer Reports are two excellent places to get that knowledge. VICTOR A. DOUCETTE Detroit. MI

#### Changing the Volume

n his amusing story on surround processors, "Doesn't Anybody Change the Volume Anymore?" (September), Alan Freedman stated that the Proceed PAV audio/vidco preamplifier does not have an on-screen display, but it actually has a rather sophisticated one.

The display can be temporarily disabled if the user finds the on-screen messages distracting. We assume that Mr. Freedman's experience with the PAV was limited to a brief demo in a dealer's showroom, and it is entirely possible that the display was turned off. As for the PAV's lack of myriad digital "hall effects," no amount of artificial reverberation, digital or otherwise, can sound as natural as the ambience captured in the recording itself. For this reason, the PAV uses ambience-extraction circuitry that places the natural ambience of the recording out in the room (where it belongs). JON HERRON Director of Communication, Madrigal Middletown, CT

As a salesman of high-end audio/video products, I found some errors of oversight in Alan Freedman's "Doesn't Anybody Change the Volume Anymore?" For example, the Denon AVP-5000 audio/video preamplifer incorporates all of Mr. Freedman's desired features. Perhaps, too, a more knowledgeable salespreson would have suggested the Denon AVC-3030 integrated AV amplifier as a replacement for the Yamaha instead of the Denon AVR-3000 receiver, as the AVC-3030 incorporates the on-screen displays the AVR-3000 omits.

In any case, Mr. Freedman was wrong in his criticisms of the AVR-3009 front-panel display. The PANNEL button on both the remote controls that accompany the receiver sequentially calls up displays of Surround Mode, Center Channel Mode and (rear) Time Delay, Center Volume Level, Surround Volume Levels (and balance), Input cound Volume Levels (and balance), Input switching the display completely off. Finally, the Moltrolos AC-98 is a versatile

A/V control center, not short on features. The incorporation of Pro Logic, (optional) Home THX, and natural ("Hall") ambienceextraction modes without phony digital-delay environment-simulation modes is assuredly deliberate. Ros Goodman.

dly deliberate.

Rob Goodman
Stereo Hi-Fi Center
Torrance, CA
the salesman Alan Freedman spoke with

about the Yamaha DSP-A2070 was mistaken. I own that amplifier and enjoy the option of separate audio and video switching via the remote control. It also has all the other options Mr. Freedman listed.

JEFFREY SHULL Mansfield, OH

Alan Freedman replies: As I discovered on youn, after it was too late to change the article, the Proceed PM does have an one severe display. As for the rest, however, I don't feel I was off-base. So the input to the Denon amp is displayed by ou toggle through a display sequence on the removement of the post of the po

With many of these components, I scoured the manuals, even taking some home and reading them for hours, because the salespeople lacked the information I needed, Most of them did not seem inspired enough to learn the details. They don't get enough "challenges" from guys like me.

#### **Surround Speaker Hookup**

while David Ranada's review of three "low-budget" A/V receivers in August was informative on the whole, his discussion of a series hookup for surround speakers may be misleading. If completely different models of surround speaker are

# Introducing the first speaker System to Mozart fans like a good chase scene.











Some consider Lynnfield VR video reference speakers from Boston Acoustics to be the first home theater components that do justice to, say, an impectably recorded symphony. Others see them as the first audiophile speakers flexible enough to reproduce an Arnold Schwarzenegger film without muscling in on the rest of the living room furniture. To accomplish this, our Lynnfield VR speakers use advanced technology from our acclaimed Lynnfield Series (which sell for over \$5000 a pain). Like our patented AMD mechanical filter, anodized aluminum tweeter dome, DCD bass units, crossovers with bypass capacitors and heavy windowpane-braced cabinets. Plus all VR components feature MagnaGuard\* shielding so they're not finicly about being placed next to video equipment. A full explanation of these engineering achievements is available at your local Boston dealer. Why not drive there? Carefully.



Boston Acoustics
70 Broadway, Lynnfield, MA 01940 617-592-9000

surround speakers.
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# **LETTERS**

used, his cautions are valid. But most users would employ the same model for both surrounds, and a series hookup in that case should not cause problems. The frequency response of identical speakers will not be significantly affected by a series hookup, and if a low-impedance design is employed, that kind of connection will prevent the kind of surround-amp overload that might result with a parallel interface.

HOWARD PERSTLER Tallahassee, FL

David Ranada replies: My preference for parallel connections is an "all other things being equal" proposition. Mr. Ferstler is correct that using identical surround speakers should not cause problems, but parallel connection will allow the safe connection of a single surround speaker (as is necessary in some listening situations) or the use of very different surround speakers (as might occur because of a piecemeal upgrade) in addition to providing freedom from speaker-impedance interactions.

#### Going to an Extreme hile reading Parke Puterbaugh's re-

view of the Kiss tribute CD, "Kiss My Ass" (September), I was surprised to see Extreme described as a "German metal band." I thought it was an American band. Am I confused, or is Mr. Puterbaugh? LAURIE A. WELSH

Dunellen, NJ

He was, Extreme's lead singer is German, but the band is American, as other readers also noted

#### "Is It Real, or . . . ?" n ad for the Victor Talking Machine in

the July 1906 issue of Ainslee's magazine shows that realistic recorded sound has been around a lot longer than we may have thought. It declares that people could not "tell the difference between hearing grandopera artists sing and hearing their beautiful voices on the Victor." It concludes, "There is a Victor for every purse-\$10 to \$100." Interestingly, an ad for the Edison Pho-

nograph, also from Ainslee's, states, "For a small additional expense you can obtain from your dealer a recorder and blank records, by which you can make your own records, and listen to the sound of your own voice and that of your friends." WALTER V. PIERSON

#### Forsyth, GA

tests of floor-standing speakers (July) and bookshelf speakers (September) have

**Speaker Values** om Nousaine's reports on comparison left me with some questions. While I understand the limitations of test facilities, Mr. Nousaine positioned all the speakers in the same room location, thereby doing a disservice to those whose manufacturers recommended putting them against a wall or in a corner. How much did that color the listening panel's impressions of their performance? What exactly makes the \$500-\$600 bookshelf speakers tested worth any more than bookshelf speakers in the \$250-\$350 range? Also, what explains the great variation in weight, from 11 to 29 pounds?

JAMES KEYES Muskegon, MI

It is very difficult to set up and carry out a good comparative listening test of loudspeakers, particularly when many or all of the contestants are close in quality, and sometimes one has to make difficult choices between maintaining similar placement of all the speakers under test and placing each of them exactly as recommended. Like any other speaker review, these comparisons should be treated as rough guides to your own further listening and evaluation rather than as the final word on any of the speakers tested.

It is impossible to make a blanket statement about what distinguishes speakers in different price ranges that will be valid for all instances. In general, however, one might expect some combination of improvements in bass extension, maximum output level, and overall sound quality (smoothness, detail, imaging, and so forth) as price goes up, particularly within a given line, The variation in size and weight among the bookshelf speakers was a result of our decision to choose models in a particular price range. Had we gone by size or some other criterion, the prices would have varied substantially.

#### The Future of Laserdiscs

fter reading several recent articles in STEREO REVIEW about the digital future of television, I have begun to worry about my collection of laserdiscs. The articles state that the new HDTV standard will be totally compatible with the NTSC format we have now, meaning that we will still be able to watch old programs recorded years ago by an ancient VHS VCR on the brandnew digital VCR of the future. But will future laserdisc players be able to play the old discs? Is there any plan at all to continue producing laserdiscs in the future, or will that consist entirely of CD-Movies?

MORUE RELIVENI Givataiym, Israel

The divital VCR of the future probably will not be able to play actual VHS tapes, but you could easily dub them to the new format. As for HDTV laserdisc players, it would be very surprising if they were not endowed with the ability to play current laserdiscs, unless the HDTV discs turn out to be considerably smaller

We assume that by CD-Movies you mean what is being called Video CD. In the present format, the picture quality from Video CD is considerably inferior to that from laserdisc-perhaps on a par, overall, with that from VHS tape-and the laserdisc market is continuing to grow at a good pace. Moreover, the audio data rate on Video CD is too low to accommodate the discrete 5.1channel digital soundtracks that are expected on laserdisc in the near future.

#### Power to the Center

can't let the following comment in August "Dealer's Choice," by Rebecca Day, pass without objection: "Having more power for the center speaker is no problem for Rubinstein, since [it] plays a key role [in home theater), especially in reproducing dialogue. And even if the center speaker . . . needs to be throttled back a bit, the adjustments can be made using the processor's remote control."

Obviously, if the input to all channels is in correct balance, then having more power available to any one channel is irrelevant. The article should have noted whether the selected system amplifiers have the same sensitivity-that is, does each amp produce the same level when driven by 1 volt? STEPHEN J. EDWARDS

Yonkers NY

The published comment about power was indeed confusing; what really has to be attended to are the relative sensitivities of the various amplifiers and loudspeakers in the system. Fortunately, as noted in the article. level-matching can be dealt with via the processor.

#### Wanted: Wire Recorder v father made a number of recordings

on a Sears, Roebuck & Co. wire recorder in the late 1940's and early 1950's. I am having trouble finding a working player for them so that I can make dubs. Can anyone give me any help? I have checked with a number of local stereo and electronics repair shops with no luck. DALE HARRIS 251 La Fonda

Houston, TX 77060

#### **Bypassing SCMS**

mericans have a way of ignoring laws that they find a nuisance-for example, the Serial Copy Management System

10 STEREO REVIEW NOVEMBER 1994



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# LETTERS

(SCMS). It's ridiculous. I've heard that anyone knowledgeable in electronics will be able to bypass the system. If that's not true, what are the chances of some kind of bypass system's becoming available underground (or overseas)?

BILL OLISE.
Lake Linden, MI

While we agree that SCMS is a nuisanceparticularly in the case of DCC and MD, whose copies are not digital clones-it is required by law on U.S. consumer equipment. And the system will still let you make any number of first-generation directdigital copies. You usually cannot bypass SCMS by simple means (for example, cutting a wire in the circuit). You'd have to design and construct a circuit to change or eliminate the SCMS data in the digital signal, which is not extremely complex or costly to do, but it is tricky. Trying to sell such a circuit could get you into big trouble, however: lawyers, subpoenas, court appearances, the works.

#### **Only Connect**

Pea to manufacturers: On most receivers and amplifiers the many inputs and outputs on the back are much too close together, making it very difficult to connect and disconnect equipment. I have ruined many coables just trying to dislodge them. Why not put the jacks further apart so that a person with average-size fingers can get a continuous control of the coable?

Rancho Cucamonga, CA

Rancho Cucamonga, CA

#### Corrections

n David Ranada's October "User's Report" on the Energy Home Theater Reference speaker system, two model designations were transposed. The center-channel speaker is the RVS-1, the left and right satellites the RVS-2.

In his September review of a reissue by Bobby Watson, Chris Albertson referred to his "current Blue Note releases." Watson is recording for Columbia now.

In referring to the conductor Kent Nagano's "late New York debuts" at Carnegie o's "late New York debuts" at Carnegie hall and the Met last spring (September), author K. Robert Schwarz overlooked Nagano's prior debut with the New York Philharmonic at Avery Fisher Hall on November 12, 1987.

We welcome your letters. Please address correspondence to Editor, Stereo Review, 1633 Broadway, New York, NY 1001-You should include your address and telephone number for verification. Letters may be edited for clarity and length.

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# NFW\_PRODUCTS



#### TOSHIBA A

Toshiba's CV27D48 is the first 27-inch TV with a huilt-in fourhead VHS HI-FI VCR. The set is said to deliver 650 lines of horizontal resolution and is equipped with stereo audio/video inputs and a remote control. To simplify recording, the VCR will automatically shift to a

slower recording speed if necessary to fit an entire program on one tape. Other convenience features include such on-screen prompts as clocks that show start and end times Price-\$1,000. Toshiba, Dept. SR, 82 Totowa Rd., Wayne, NJ 07470. · Circle 120 on reader service card

#### W HSU RESEARCH

Subwooter or end table? The HRSW12V Heu Research's first powered subwoofer, combines a 12-inch driver, an adjustable 24-dB-ner-octave erossover, and a 150-watt power amplifier in a vented cabinet that can be used as an end table or TV stand. It's rated down to 20 Hz (±2 dB). The

22-Inch-high, 23-Inch-diameter cylindrical enclosure has a black fabric sleeve and a Zolatone granite top. Available factorydirect for \$800 (plus shipping) from Hsu Research, Dept. SR. 20013 Rainbow Way, Cerritos, CA 90703; telephone, 310-924-7550. . Circle 121 on reader service card





#### A AIWA

Alwa's top cassette deck, the An-F850 (\$400), is a three-head design featuring a two-motor, dual-capstan "quick-response" tage mechanism. Highlights include Dolby HX Pro. Dolby B. and C noise reduction, a fine-tuning bias control, a fluorescent display with a linear tage counter, LEO level indicators, and a remote control The AD-F850 is loined by two other new models: the single-well AD-F450 (\$250) and the dual-well AD-WX727 (\$300). Aiwa, Dept. SR, 800 Corporate Dr., Mahwah, NJ 07430. . Circle 122 on reader service card

#### V ONKYO

Onkyo has entered the speaker arena with two THX-certified packages: the System One (shown, \$2,995) and the System Two (about \$4,000), Both systems include three 20-inch-tall front speakers with pairs of 4%-inch wnofers and titanium-dome tweeters and two wall-mountable

dipolar surround speakers (brackets included). System One comes with two 30-Hz-capable subwoofers, one of which has a 180-watt amplifier, System Two. for rooms larger than 2,500 cubic feet, doubles the subwoofer count Onkyo Dent SR 200 Williams Dr., Ramsey, NJ 07446.



# **NEW PRODUCTS**



#### CALIFORNIA AUDIO LABS The Icon mkil CD player from provide a tenfold improvement

The icon mkil CD player from California Audio Labs uses a "hand-trimmed" 18-bit digital-to-analog (D/A) converter, said to provide four times the resolution of standard 16-bit converters, and a digital servo that's said to

in tracking accuracy over analog servos. Price: \$895. California Audio Labs, Dept. SR, 16812 Gothard St., Huntington Beach, CA 92647. • Circle 123 on reader service card



#### NILES AUDIO

speaker is 100 percent water resistant, making it practical for use outdoors. The waterproof woofer and tweeter are housed in a 10% x 3% x 6%-inch plastic ablinet with an aluminum gitle and mounting bracket. The

cabinet has threaded brass inserts for OmniMount brackets and comes in black or white. The speaker's low-frequency limit is given as 65 Hz. Price: \$380 a pair. Niles Audlo, Dept. SR, 12331 S.W. 130 St., Milami, FL 33186.

- Circle 126 on reader service card

#### \* ATLANTIC

Atlantic's S6-inch-tall Guillar
CD Tower comes in a 120-disc
free-standing version (shown,
\$110) and a single-sided wallmountable 60-disc version (\$80).
Both are made of shell and are
available in black or red. Atlantic,
inc., Dept. SR, P.O. Box 2399,
Sante Fe Springs, CA 90579-2399.

- Circle 124 or resets sands



#### A APOGEE ACOUSTICS

Agogen's 5-foot-tail Centeurus Column spaker combines a Column spaker combines a Schinch (spaker hollow midranger) hewether and a 51-footh come wooler. The 13-footh come wooler. The 13-footh come cabinet, with a black or burge barber grille, can be placed against the wall will be shaded against the wall bank waves are deflected out of 28 bits. Price: 51,456 a pair. Agogen Acossitic, Popt. 58, 35 Yurk Ave., Randolph, MA 02284.

#### **\*** ADVENT

Designed for car stereo systems in need of a modest power boost, Advent's PA415 four-channel amplifier is rated to deliver 15 watts per channel into 4 ohms or 18 watts into 2 ohms (both continuous). It has speaker-level and line-level inputs, two input-

sensitivity controls, and goldplated connectors, all concealed by its heat sink. Dimensions: 174. X61/x 474 inches. Price: \$149. Advent, Dept. SR, 25 Tri-State International Office Center, Suite 400, Lincolnshire, IL 60859.





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#### NAME: Chris McAdams. PROFILE: Furniture Designer.

661 he other day my dad informs me that most normal people my age are actually looking forward to settling down, driving station wagons and buying dishes that aren't plastic. Which translates into: they don't play the saxophone at three in the morning. eat cheese breakfast puffs for



on Saturdays. Of course he also thinks The Who is part of an old Abbott and Costello routine Red Hot Chili Peppers are used for making tacos and Columbia House must be where they grind those tasty coffee beans. 99

Contains explicit lyrics which may be

objectionable to some members @ 1994, The Columbia House Company





'Who wants to

be thought of as normal?' ? ?



# NEW PRODUCTS



#### **ZENTEK**

Zentek's CS720 wireless headphone system uses an infrared transmitter with an operating range of "up to 23 feet." The AC-powered transmitter/base has a miniplug (a phone-jack adaptor is supplied) and a built-in charger for the two AAA Ni-Cd batteries (not included) the headset requires. A volume control is on one headphone. Price: \$60. Zentek Corp., Dept. SR. 3670-12 W. Oceanside Rd, Oceanside, NY 11572.

• Circle 128 on reader sarvice card



Instant car CD: Jasco's HF 8647 adaptor kit converts the output of a portable CD player into a radio signal so that it can be played through any car stereo system equipped with an FM tuner. It has an adjustable transmitting frequency and provides 4.5-, 6-, or 9-volt DC power to the player via a cigarette-lighter adaptor. Price: \$33. Jasco, 311 N.W. 122nd, Oklahoma City, OK 73114. a Circle 130 on reader carries card



#### ▼ NIKKODO/BMB

A new form of blackmail? The BMB DA-X11 karaoke amp from Nikkodo includes a tape deck so you can record sing-along performances. It also has five mike inputs and a digital key

shifter and echo processor. Rated power output is 100 watts per channel, Price: \$1,599, Nikkodo USA, Dept. SR, 4600 N. Santa Anita Ave., El Monte, CA 91731, e Circle 131 on reader service card





#### ALLISON ACQUISTICS

Allison's PD8.3 speaker combines two 8-inch woofers, a 4-inch midrange driver, and a 1-inch tweeter in a 34-inch-tall sealed hardwood cabinet with a pecan veneer. The system is magnetically shielded and has inputs for biamping or triamping.

Bandwidth is given as 35 Hz to 20 kHz and sensitivity as 89 dR. Rubber feet and brass floor spikes are included. Price: \$900 each. Allison Acoustics. Dept. SR. 478 Stanford Ave... Danville, KY 40422.

· Circle 129 on reader service card



#### A BELL'OGGETTI

The AVS-767 audio/video rack from Bell'Oggetti is designed to accommodate television sets with screen sizes up to 32 inches diagonal. Made in Italy of heavy-gauge metal with a black powder-coated finish, the rack has five tempered-plass shelves and features a hollowed-out

post (rear) for organizing and concealing component nower cords and interconnects. The rack's overall dimensions are 311/4 x 34 x 19 inches, Price: \$850, Bell'Oppetti, Dept. SR. 711 Ginesi Dr., Morganville, NJ 07751-1250. . Circle 132 on reader service card

# **NEW PRODUCTS**



#### ◆ NOMAR Nomar's Speaker Friendly bracket

is designed for wail-mounting and accommodates speakers from 8 to 24 inches tail and weighing up to 28 pounds. Once seated in the 34-inch steel bracket, the speaker pivots horizontally. Available via mail order for \$39.95 (plus shipping) from Nomar Industries, Optl. SR. P.O. Box 301381, Portland, OR 97230; telephone, 503-529-341.



#### A ROSINANTÉ

The Evolution speaker from Rosinants unites two 7-inch "polyglass" woofers and a 1-inch inverted litanium-dome tweeter in a unique 4-foot-ball cast-polymer cabinet. The density and shape of the seamless cabinet, made via a patented process, are said to eliminate resonances

and image-muddling refraction. Bandwidth is given as 28 Hz to 22 Hz to 22 Hz and sensitivity as 93 dB. Power-handling is 50 to 300 watts. Finish is white or black simulated marble. Price: \$2,000 a pair. Rosinanté, Dept. SR, 602 Acorn Plaza, Eudora, KS 66062. Cirité 337 on anstre service sand



#### A SIGNATURE TECHNOLOGIES

The classic styling of Signature Technologies' SRd-12 CD player seems incongruous with its twection until you find out that there's a vacuum tube in its analog output stage. The player also features a Philips CDM 9 transport, a 1-bit digital-to-analog (D/A) converter, favorite-track GOIES
memory for more than 100 discs,
and an optical digital output.
The standard finish is rosewood
(ekown); oak, walnut, and cherry
finishes are also available.
Price: \$1,665. Signature
Technologies, Dept. SR, P.O. Box
09068, Milwaukee, WI \$3209.
Circle 1346 are rost service and



#### **▼ PANAMAX**

Panamax's Coaxmax 6 surge suppressor, designed to protect AV gear from electrical spikes, boasts a 40,000-ampere surge capacity. Price: \$129. Panamax, Dept. SR, 150 Mitchell Blvd., San Rafael, CA 94903.

#### **V** CANTON

Canton's Fonissimo subwoofer/ sabelilie speaker system includes two 5-inch-cube sabelilies, each containing a 4-inch midrange driver with a coaxially mounted tweeter, and an 11½-inch-high band-pass bess module with two 7-inch woofers. System bandwidth is given as 22 Hz to 30 kHz. All three pieces are available in black or white vinyl with matching grilles. Price: \$829. Canton, Dept. SR, 915 Washington Ave. S., Minneapolis, MN 55415-1245. • Circle 134 or reader service card





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# AUDIO Q\*A

#### To Sub or Not

An audio salesman told me that I must use a subvoofer to reproduce the low-low full state of the sales of the

A The subwoofer may be a convenient southern to a couple of problems that sometimes arise in stereo systems. Some oroms cannot accommodate large main speakers, and many small speakers—but by no means all—end to be shy in the low end. If your speakers are base-aby, an outboard subwoofer can be used to supply that bottom octave or so; if your speakers are already producing that part of the spectrum,

however, you don't need a sub to produce it.
Still, even with peakers that are able to reproduce the very low sounds, room acoustices can play havor with bass response. Placing a full-range speaker so that it provides good stereo maging can cause standing waves or other problems that result in the contract of the con

without a subwoofer unless you crank the

### bass so high that you fry something. Ambiguous Ambience

My surround-sound receiver has a number of digitally produced ambience modes, but I'm not sure how to adjust them because I've never been in a recording studio or concert hall and don't know what they sound like. How do I set the controls so they'll sound right?

MICHAEL GAYLE
Philadelphia, PA

First, forget what they call the various modes. Instead of Half, thin," big, revenience, Instead of Half, thin," big, revenience, and the control to create pleasing effects for the controls to create pleasing effects for the various sorts of music you list not 10, you've new been to a concert half, it is not really matter whether or not your enhancer sounds like a genuine half, et alone a particular one. O' just leave the adjustments as create pleasible, pleasant acoustic effects at their default setting.

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#### **Dueling Preamps**

My surround-sound system contains a preampidecoder that would normally feed power amplifiers directly, Instead. I have it connected to three integrated amplifiers, each with its own bull-in preamp stage that can't be bipassed. Am I mister out on better sound quality by doubling up the preamp stages? JAMES W, THOMSON COLORDO SPRINGS, CO

I doubt it. Generally, the fewer things in the signal path the better, but pure electronic components—such as preamplifiers—are pretty transparent in terms of noise and distortion. Just make sure that the secondary preamps' tone controls, loudness switches, and anything else that might alter the frequency response are in their neutral positions—or switched out if possible.

#### Flat Response

I often come across the term "flat response" when audio equipment is reviewed. What is it? What is its importance? Can it be determined or measured at home? JUANITO NATIVIDAD Hanover Park, IL

One of the major virtues of a good piece of audio gear is that it be linear, that the output it produces for a particular input level be independent of frequency. In other words, if an amplifier fed a 1-millivolt signal at 1 kHz produces an output of, say, 1 volt, it should do the same at 20 Hz and 20 kHz, and at all frequencies in between. A component's ability to do that is usually plotted on a graph where the horizontal axis represents the frequencies within the audio spectrum, from lowest to highest, and the vertical axis represents the device's output at each frequency with a fixed input level. The result is a graphic representation of its frequency response; a perfect response curve would be a straight line, or "flat."

Flat response is important to the character of a system's sound: Too little treble and it will sound muffled, too little bass and it will sound thin, and dips and bumps in the middle will make music sound unnatural. At home, you can get some idea of a component's response by using a test CD that plays specific frequencies across the audio spectrum. Feed the signal through the component you want to check and then to a power amp with output meters. Watch the meters to see how the levels of various frequencies compare—they should be the same if the component has a flat response. If your amp doesn't have output indicators, the level meters of a cassette deck can sometimes



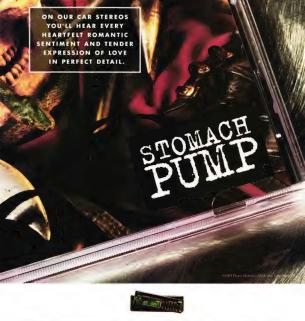
One button. That's all it takes to experience the dramatic sound of the Bose® Lifestyle® 12 home theater system.

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you won't see it in your home, either.) However, there is one last instruction you should follow. Hold onto your seat – after all, the sound is from Bose. For more information and names of dealers near you, just push these buttons:

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Music's come a long way since the days people sang about holding hands and moonlit walks. On most car stereos, however, it's often hard to tell. Which is why we suggest you put in a Pomeer' CD player. Not only will you be able to onjoy your favorite discs on the road, but all of our players provide true four speaker amplification for killer CD sound. So call us at 1-800-Pioneer, ext. 202, for a dealer. Then prepare yourself for some car autho that's really uncensored.



be used instead, although those may provide only 1- or 2-dB resolution.

#### **Tiny TV Speakers**

My music system is in one room and my TV in another, which means that when I watch TV I have to listen to the tiny speakers in the set. Is there any reason television manufacturers don't incorporate 50or 100-watt amplifiers in their sets so that they could drive a normal pair of speakers? LARRY LOZNER Whitestone, NY

Traditionally, TV makers have shown little concern for sound quality. But in recent years, as A/V systems have become increasingly popular, they have made great strides in improving the quality of both the speakers and the amplifiers they put in their TV sets. Even so, they haven't gone to the extreme of incorporating highpower amps (cost, weight, and heat are big factors). Instead, they have bumped power up modestly (read: a few watts) and added A/V output jacks to many sets, on the principle that anyone who's really concerned about audio quality will feed the signal to an

outboard sound system anyway. A few elaborate big-screen TV's do. however, have built-in Dolby Pro Logic decoders and five channels of amplification. so that (theoretically) all you need to add is a couple of surround speakers. Even these amplifiers tend to have a fairly low output (maybe 10 or 15 watts), though, so external amplification is usually desirable. But the built-in stuff is often okay in small rooms or until you can afford the extra gear.

#### **Digital Print-Through?**

I have read a lot about print-through in analog tapes. I am considering moving into one of the modern digital recording media and wonder whether the same effect happens with them. If not, why not? Magnetic patterns are magnetic patterns, aren't they? CLYDE A. RUSSELL Thornton, CO

Yes, they are, and digital tape media, such as DCC and DAT, might well have lots of print-through. Fortunately, though, the playback systems simply ignore it. In analog tapes, print-through-the leakage of magnetic patterns on one layer of tane through to the next-might be on the order of 40 or 50 dB below the program level. That's well within the range of audibility, especially if what's leaking is loud and

what's currently playing is soft In any kind of digital recording, the playback system detects only the presence or absence of a signal at each moment, with no concern for its level. In practice, if the signal falls below a certain level, the pickup doesn't respond to it at all. Digital tape print-through falls into that category.

#### **CD** to Phone Input

My roommate recently bought a new CD player. I'd like to attach it to my current system, but there aren't enough linelevel inputs to accommodate it. If I patched it to the phono inputs, would that damage my receiver? PVAN CONOVER Bettendorf, IA

It probably won't do any damage, but it is sure to sound terrible. For one thing, In the phono stage is equalized—it boosts the bass and cuts the treble quite a bit in order to reverse the equalization applied when a vinyl record is made. For another, the phono input has an extra amplification stage to handle the very low output of a phono cartridge; feeding it a high-level signal such as the output of a CD player will overload it and cause excruciating distortion.

If you have a question about audio, and it to Q&A, Stereo Review, 1633 Broadway, New York, NY 10019. erry, only questions chosen for publication can be ans

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# PERIPHERALS

PRODUCTS AND TRENDS
THAT GO BEYOND
MAINSTREAM AUDIO/VIDEO

### Cataloging Your Recordings by Computer ..

eeping track of discs and tapes is no big deal if you have a modest collection. You set aside some space-perhaps on a shelf or in one of those specially designed wall racks or cabinets-and arrange them in some sort of logical order. But music collections have a tendency to grow, and before you know it you've got a pretty good library on your hands. When you reach that point, it's time to set up some kind of inventory system. Actually, you should begin cataloging before the collection becomes unwieldy, but most of us don't

Back in the days of vinyl, I simply put my LP's on shelves in alphabetical order, first by label and then by artist. That made it fairly easy to locate a record, but the physical arrangement was impractical because I had to shift the entire collection periodically to make room for new arrivals. Having amassed several thousand records. had to find a better way, so I created a card file and began storing them in order of receipt, assigning a library number to each one. Then, in the early Eighties, when my card file was almost up to date, I switched to a computerized system.

A computerized catalog provides

several advantages over a paper file. not the least of which is the ability to quickly locate a tape or disc according to just about any criteria. Whether you need to find all your recordings of Cherokee or locate a specific performance of it, the information is just seconds away. Another great benefit is that you can generate all kinds of useful lists. For example, I have a 110page printout of my entire catalog, sorted by artist, that I regularly supplement with a list of recently received CD's-and it's easy to add the new recordings because my database includes acquisition dates.

Of course, to do any kind of computerized searching or sorting you need to organize the raw data, so the first thing to consider is what kind of information you want to be able to retrieve. Then you need a good database program, I use FileMaker Pro from Claris, a full-featured business program, and if you already have one of several similarly powerful programs. including Borland's dBase and Microsoft's FoxPro, that should work just as well. But mail-order prices for these programs typically range between \$100 and \$300, which is a lot to spend just on a music catalog. The less powerful database programs in integrated

software (Claris Works, Microsoft Works, and so on) should also be quite adequate.

A database program will let you set up a recording catalog and customize it as you see fit. Each disc or tape in your collection is entered as a "record" (an apt term in this case) made up of "fields" that hold such specific data as the artist's name, the album title, and your library number. Those three fields are the bare minimum, but with only those you have barely progressed beyond the alphabetized card file, so you'll probably want to include more data fields. Just keep in mind that it's very easy to go overboard when structuring a database. When you consider including song titles, composers, individual track timings, etc., think about keving in all that information-it's a slow, laborious process that few of us have the patience for, especially if there's a large collection to catalog from the start.

Because I had been too ambitious when setting up my field-laden LP database, which slowed data entry to a discouraging snail's pace, I took a more prudent approach when I started cataloging my CD's a couple of years ago. The collection had already reached 2,000 titles (a reviewer's

perk), a huge backlog that I wanted to deal with as quickly and effortlessly as possible. To ease the burden. I set up a streamlined database and began making entries in only three key fields: artist's name, album title, and label. Fortunately, FileMaker Pro automatically assigns a number to each record in a database (many other programs

do the same), and



A section of the author's own CD catalog created with the FileMaker Pro database progra

# In The Mid '70s We Created Home Theater. Now We've Created A New Way To Buy It.

The people who work at Cambridge SoundWorks - including our cofounder Henry Kloss (who also founded AR, KLH and Advent) - have been involved with the concept of home theater from the beginning. In 1969 (years before VCRs and cable TV), Henry Kloss founded Advent,

the company that introduced the first home theater audio/video systems complete with bigscreen TVs and

digital surround sound. We have had an ongoing relationship with the people at Dolby Laboratories, creators of Dolby Surround Sound, since Henry Kloss introduced the first consumer products with Dolby noise reduction over 20 years ago. And now at Cambridge SoundWorks we believe we have set

a new price-to-performance standard for home theater components. Because we sell carefully matched and tested home theater speaker systems factory-direct, with no expensive middlemen, you can save hundreds of dollars. We believe the products on these pages represent the country's best values in high performance

home theater components. Audio critics, and thousands of satisfied customers agree. Stereo Review said "Cambridge SoundWorks manufactures loudspeakers that provide exceptional sound quality at affordable prices." Audio suggested that we "may have the best value in the world."

#### Center Channel Speakers

Cambridge SoundWorks manufactures three speakers for use as center channel speakers in Dolby Pro Logic home theater systems. All three are magnetically shielded

so they can be placed near a TV or computer monitor. Model Ten-A is a small, affordable twoway speaker. \$80. Center Channel is identical to a

Cambridge SoundWorks

Ensemble satellite (but with magnetic shielding). \$149. Center Channel Plus uses an ultralow, ultra-wide design that is ideal for placement above (or, with optional support stand, below) a TV monitor, \$219.

#### Surround Speakers

Cambridge SoundWorks makes two "dipole radiator" surround sound speakers. Dolby Laboratories recommends dipole radiator speakers for use as surround speakers.

The Surround has a very high power handling capacity and is often selected for "high end" surround sound systems, Audio. describing a system that included The

Surround said, "In many ways the surround sensation was every bit as good as far more expensive installations." \$399 pr. The smaller The Surround II is arguably the country's best value in a dipole radiator speaker, \$249 pr.

#### Powered Subwoofers

The original Powered Subwoofer by Cambridge SoundWorks consists of a heavy-

duty 12" woofer housed in an acoustic suspen-

sion cabinet with a 140-watt amplifier and a built-in electronic crossover. Stereo Review said it provides "deep powerful bass...31.5 Hz bass cutput was obtainable at a roomshaking level... they open the way to having a 'killer'

system for an affordable price," \$699. Our Slave Subwogfer uses the same woofer driver and cabinet, but does not include the amplifier or

crossover. It can only be used in conjunction with the Powered Subwoofer, \$299. The new Powered Subwoofer II uses a 120-watt amplifie with an 8' wooter. \$399

Our EXO-1 electronic crossover can be used with either of our powered subwoofer systems.

or with powered subwoofers made by other companies. Its high pass filters keep strong, low bass signals out of the main stereo speakers, and directs them to

the powered subwoofer, \$299.

#### Home Theater Speaker Systems

We have assembled a number of home theater speaker systems that consist of center channel.

surround and main stereo speakers. The

combination we show here is our best seller. It includes our critically acclaimed Ensemble subwoofer satellite speaker system (with dual

subwoofers), our Center Channel Plus and a pair of our best surround speakers, The Surround. You could spend

hundreds more than its \$1.167 price without improving performance

For information on other home theater speaker systems - or on any of the products we make and sell - call 1-800-FOR-HIFI for your free color catalog.



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We Know How To Make Loudspeakers

# CAMBRIDGE SoundWorks

lifornia Street, Suite 102N, Newton, MA 02158 1-800-367-4434 Fax: 617-332-9229 Canada: 1-800-525-4434 Outside U.S. or Canada: 617-332-5936



# PERIPHERALS



talog template for use with FileMaker Pro.

those numbers became the library numbers of the corresponding CD's, though I still had the chore of physically numbering all the jewel cases and shelving them in order.

With only three items to enter for each CD. I was able to breeze through the 2,000 records in a few days. Once my computer catalog was up to date, it was easy to maintain a routine of entering new discs as they were acquired, and I am still leisurely keying in additional data, such as song titles and secondary performers, for the original 2,000.

Creating your own catalog structure also gives you the advantage of being able to add new fields at any time. You might want to add a category field, for example, with a code for Christmas records that will make it easy to generate a holiday list once a year. Although I have changed the look and structure of my database a few times-adding such new fields as the record label's catalog number, the date received, and the number of tracks per disc-I keep it fairly simple. If you have the time and inclination, you can always add bells and whistles (such as a fancy screen look) later. For example, I recently set up my database so that it automatically displays a running total of trackscertainly not essential information, but interesting nonetheless.

If you have the FileMaker Pro program and wish to skip the creative process, Tom Hyde offers his readymade cataloging database, called A Box of Rain, for free. A limited demo copy can be downloaded from America Online (AOL), and sending an email message to Mr. Hyde (Seastack @AOL.com) will get you a password that turns it into a full working copy. A Box of Rain is pleasing to the eye and has lots of useful features as well as some extravagant ones. Unless you have a modest-size collection, for instance, you should probably avoid the Album Cover and Sound Sample fields (not shown in the screen shot above) -both require the creation of additional, space-consuming graphic and sound files that are guaranteed to slow you down considerably.

If you don't already own a database program, you might check out some inexpensive "shareware" programs for the Mac. DOS, and Windows environments. Many of these programs can be downloaded free from computer bulletin boards (BBS's) or such online services as AOL and CompuServe. Most shareware authors request a nominal payment once you decide to use the program. It's on the honor system, but paying for shareware encourages further development, and in many cases registered users are entitled to periodic upgrades. Here are a few shareware cataloging programs I've come across:

For IBM's and compatibles, there's Organize Your Records & CDs, \$3.95 plus postage and handling from Public Brand Software (P.O. Box 51315, Indianapolis, IN 46251: 1-800-426-3475). I haven't tried the program, but Public Brand rates it highly.

CD Catalog is a HyperCard-based program for the Macintosh that even allows you to enter liner notes, although that could become a lifetime occupation. Fields include artist, orchestra, album title, song titles and timings (the program automatically totals them), label, catalog number, music category, and stereo/mono. You can include up to six volumes of a series in one record. Like most of these programs, CD Catalog allows you to import and export entries from other databases (including its sister program, LaserDisc Catalog); unlike other programs, it can generate labels for cassettes or DAT's from the data. You can download a demo version of CD Catalog from AOL. Author Mark Calice of Ardenwood Software (34766 Monaco Common, Fremont, CA 94555; e-mail, MarkC17@AOL.com) will mail you a fully functional copy for \$35 if you live in the U.S., or \$45 if you're overseas.

DiscTrak System is a DOS-based entertainment cataloging program for IBM's and compatibles. I haven't used it, but it claims to be loaded with features. The price is \$30 from Blaine R. Young (707-202 Clark Court, Leesburg, VA 22075). LaserDisc Gazette subscribers get a \$10 discount and can download a fully functional evaluation copy (file name: DT-171.ZIP) from the Gazette's BBS (703-779-2961).

Record Collector, another Hyper-Card-based Macintosh program, contains more fields than you might need. but author Charles Wiltgen (e-mail, CWilteen@mcs.com) has kent it reasonable. Fields include format (CD, CD-3, LP, VHS, and so on), condition (mint, poor, etc.), song titles, and comments. Pop-up menus minimize typing. A demo copy of the latest version, 2.1. should be available on America Online by the time you read this; it will include instructions for obtaining an unlocked copy.

# How Do You Improve On"...The Best Value In The World"?

#### Cambridge SoundWorks Introduces

New Ensemble. New Ensemble II and a new member of the family, Ensemble III

Audio magazine once said our Ensemble® speaker system may be "the best value in the world." Since then, numerous critics have applauded our Ensemble and Ensemble II systems. Designed by Henry Kloss (founder of AR, KLH and Advent), they became best sellers by offering quality construction and accurate, wide-range music reproduction - at factory-

direct prices. We're pleased to introduce new versions of our Ensemble and Ensemble II systems, as well as our new, ultra-compact Ensemble III.

#### The New Ensemble

know of.

New Ensemble is an improved version of our original dualsubwoofer/satellite speaker system. New Ensemble maintains the dual subwoofer design, which allows for maximum room placement flexibility Placement of bass and high-frequency speakers in a room (and how those speakers interact with the room) has more influence on the sound quality of a music system than just about anything. New Ensemble's ultra-slim (4 1/2") subwoofers give you more placement flexibility than any system we



#### So What's New?

New Ensemble maintains the tonal balance. frequency range and quality of construction of the original. There are two basic differences. 1. New Ensemble uses a new 8" woofer with a

very long "throw" for linear cone excursion and more accurate bass. An integral heat sink provides improved power handling.

2. New Ensemble's satellite speakers use the same speaker drivers and crossover as the original, but with new midrange and high

frequency balance controls The midrange control lets you choose the same output in the key 800-1600 Hz octave as in the original, or you can emphasize that octave by 2 dB. Ensemble satellites have relatively less output in this range to avoid the "boxy" sound typical of many speakers. This results in an "open" sound on large-scale symphonic works. For small-scaled music, the

higher output position proves a "warmer" sound. A high frequency control has three positions: A) The same balance as original Ensemble.

B) A 2 dB high frequency increase, C) A 2 dB high frequency decrease. The switch can subtly increase the system's "airiness" (Increase) or it can reduce any tendency towards

"edginess" (Decrease) In terms of "real life" performance, we believe our New Ensemble system competes head-on with speakers selling for hundreds more. Available

with blacklaminate subwoofers for \$629, or with vinyl-clad subwoofers for \$549

#### The New Ensemble II New Ensemble II is an improved version of our

best-selling speaker system. It's more affordable than New Ensemble because it uses one cabinet to house both subwoofer speakers. New Ensemble II maintains the tonal balance, frequency range, power handling and construction quality of the original Ensemble II. But its satellite speakers use the same tonal balance controls as New Ensemble's

New Ensemble II also uses a new flared subwoofer port. The subwoofer cabinet encloses two 6 1/2" long throw woofers mounted in a sealed "acoustic suspension" chamber. They project into a second chamber fitted with the flared port, which provides smoother air flow, eliminating extraneous noise on strong bass notes.

Stereo Review said the original Ensemble II performs so far beyond its price and size it can be compared only with much larger speakers at substantially higher prices." New Eresemble II carries on this tradition, outperforming other speakers in its category, including well-known models for about twice the price. Factory-direct price, \$439.

#### The Ensemble III

Now you can bring the clear, balanced widerange sound of Ensemble speakers to a small. crowded room. Our new Ensemble III's satellite

speakers are only 4 1/2" x 6 1/2" x 3" and its subwoofer is 8" x 8" x 15". Compared to New Ensemble II, Ensemble III gives up a little in power handling, low bass range, and efficiency. Unlike the "cube" satellite speakers you'll find in most similarly priced

systems, Ensemble III's satellites are two-way

speakers. Ensemble III's 6 1/2" woofer uses two

cabinet with a flared port for smooth air flow. With most

recordings Ensemble III will sound virtually identical to New Ensemble II. It simply won't play as loud. Its construction quality is normally found only in much more

expensive speakers

Factory-direct price, including connecting wire cutter/stripper and Hook-Up Guide, is only \$329.

#### 30 Day Home Audition.

All Cambridge SoundWorks speakers are backed by a 30-Day Total Satisfaction Guarantee. So you can audition your speaker the right way - in your home, with no salesman hovering nearby. If within 30 days you're not happy, return your system for a

True acoustic sealed cavity. band-pass filter

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MI MA CIRCLE NO. 6 ON READER SERVICE CARD



### **Smart Radio**

n the fast-paced world of CD, CD-R, CD-ROM, SDO, CDX, SC, CD-R, CD-ROM, SDO, CDX, SC, CD-R, CD-ROM, SDO, CDX, SC, CD-R, CD-ROM, SDC, CDX, SC, SC, CDR, SC, C

True, radio is far and away the most oppowerful medium on the planet. Add topowerful medium on the planet. Add together all the other consumer electronics are
machines, and they still wouldn't rival the
countless billions of radios out there. The
power of radio is easy to understand. It's to
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Yet, as any T-Rex would tell you, just because something is big and powerful doesn't mean it will dominate forever. Despite what marketeers like to believe, the number of hours a person can spread more engaging mediums are developed, the time we spend listening to radio will inevitably dwindle. Savvy broadcasters everywhere are asking whether radio's cost features. The nawer is rangbe—if a technology that has been widely used in Europe for a decade catches on here.

Radio Broadcast Data Service (RBDS) or RDS for short) adds a nonaudio data channel to conventional FM broadcasts. RDS can supply and display alphanumeric data such as station call letters and program type; its "radio text" feature, in addition to no-brainers like providing song titles and artist names, could flash everything from sports scores to Nike commercials. RDS can also send a trigger that switches your radio to traffic or emergency reports as they are broadcast. To receive RDS broadcasts, you need a radio that's equipped with an RDS decoder and an alphanumeric display. On their end, broadcasters need an RDS encoder and must feed in the RDS information.

I recently posped am RDS-equipped Denon DCT-9698 CD receiver into my dashbasad and took it for a test drive. I gl. and took it for a test drive. I gl. and gl. and gl. and gl. and gl. and gl. MHz. Actually, the receiver's RDS Seek intention found them and displayed their call letters, WLRN and MTMI, in the LOD panel. In it about each station's program type, and the word pressure came up on the display for WLRN, CLAS-sect, for WTMI.

The RDS format lets you browse through an electronic catalog with twen-ty-four PTY entries such as NEWS, TALK, SPORTS, TOF 40, COUNTRY, and JAZZ. Once you find the kind of programming you're interested in, you can perform a station search by hitting a couple of buttons. In my case, I searched the CLASSICL entry, and the radio correctly tuned to WTMI.

In addition, you can engage an Alternative Frequency (AF) function; when signal conditions deteriorate on the station you're listening to, the radio will automatically scan incoming RDS data to find

Can radio's
appeal be expanded
with new,
low-cost features?
Well, maybe.

another station (on another frequency) broadcasting the same type of program.

An RDS message consists of eight alphanumeric characters; on some RDS receivers the displays are static, but on others they scroll. Radio text raises an interesting liability issue: Would you sue the radio manufacturer or the radio station if you drove into a tree while you were sense to have a memory that would save selected messages for display when the vehicle stops.

The reliability of RDS data depends on the integrity of the FM signal. During my test, the RDS data was reliable even after audio reception had begun to deteriorate, but it failed when the FM signal became audibly quite poor. True to its digital nature, it didn't become noisy or garbled; it simply vanished. But if FM signal strength failed momentarily, the Denon head unit's memory retained the current RDS display. Clearly, RDS added utility and convenience to the radio.

and convenience to use reads. Seems to be the classic chicken-and-egg problem. Radio stations won't start encoding RDS data until people start buying RDS radios. And that can't happen und in annualization proposed to the control of the control of the conlone, Blagunguist and proposed to the conlone, Blagunguist and Panasonic—are selling RDS-equipped components, forhome and car, and General Motors is the only camarker offering an RDS radio option (on some models).

So RDS is the next big thing, right? Well, as with any good chicken-and-egg story, there's a fox (or two) lurking just outside the coop. In this case, the fox's handle is DAR (Digital Audio Radio). The Electronic Industries Association and the National Association of Broadcasters are testing several proposed DAR systems and will present their recommendation to the FCC, which will eventually select a standard. Whichever system is chosen, whether it's transmitted by satellite or by terrestrial towers, DAR will provide CD-grade sound quality, immunity to multipath and other interference, and its own data services. Why should radio stations and consumers invest in RDS when an entirely new, digital generation of radio is on the horizon? Moreover. some critics argue that RDS is obsolete even for conventional FM applications because it's too slow.

Depending on your point of view, the potential, or threat, of newer and better broadcast technologies creates a waitand-see attitude, which can be fatal in a chicken-and-egg scenario. So far, perhaps 200 radio stations have started encoding RDS data. As of this writing, as far as I know, none of them are sending anything really useful-like traffic information. This year and the next will be critical for RDS: if it doesn't kick-start soon, it will be overrun by new technologies. One thing is certain. As analog radio enters its second century, it will have to adapt to a digital world. And as broadcasters embrace digital improvements such as DAR, AM and FM could join the LP.



# Introducing *SoundWorks*By Henry Kloss.

We'll get right to the point. SoundWorks - our new amplified speaker system may well be the most exciting product ever designed by Henry Kloss - and the most affordable. Never before has so much high quality, wide-range, natural, "big" sound come from such a small, affordable system. It is ideal for literally hundreds of applications, and thousands of people. SoundWorks consists of a pair of

satellite speakers (app. 3 1/2" x 3 1/2" x 3 1/2") and a compact, powered subwoofer cabinet that encloses a 4" woofer, a 3-channel amplifier, equalization and crossover electronics as well as a control panel

#### The Satellites.

The small satellites are magnetically shielded so they can be used very close to a TV or computer monitor. They contain a remarkable 2" speaker driver with a longthrow/wide-range design that reproduces high and mid frequencies all the way down to 150 Hz, without the need for a "midrange" driver. You can order SoundWorks with satellites finished black, or in "computerbeige." The satellites can be used as is, hung on walls using their back-panel keyhole slot, used with their supplied mini-stands, or they can be attached to a computer monitor with their velcro kit (supplied).

#### The Subwoofer.

The subwoofer cabinet (a little bigger than a shoe box: 5" x 8" x 9") reproduces only non-directional bass so it can be placed in out-of-the-way places - on the floor behind vour TV set, under vour computer desk, or in back of furniture. It contains a 3-channel amplifier that's been precisely tailored to match the speaker drivers. Its control panel includes a stereo mini-jack input for connecting to a computer or a portable CD player, a "set and forget" bass level control, and connecting terminals for the satellite



Not including CD player

Never Before Has So Much High Quality, Wide Range, Natural, "Big" Sound Come From Such A Small, Affordable System.

speaker wires. It also has an input for 12 voltso you can plug SoundWorks into the cigarette lighter in your car or boat!

#### The Sound.

"Amazing." "Remarkable." "Unbelievable." These are the words used by leading members of the audio press at the unveiling of SoundWorks. In terms of frequency range, tonal balance, stereo imaging and overall sound. SoundWorks compares very favorably with component music systems costing far more. It just doesn't seem possible that a system so small could produce a sound so "big." But it does.

#### The Applications.

Because of its small size and price, and because of its magnetically shielded satellites, SoundWorks is ideal for use as a multimedia speaker with any computer (it sounds far better than any we've heard designed for that use). It fits easily into smaller rooms - like kitchens, dens, dorms and bedrooms Its 12-volt capabilities make it perfect for boats, campers and cars. And it's small enough to pack in a suitcase, so you can travel with it.

#### The Price.

You can buy SoundWorks only factory-direct from Cambridge SoundWorks. Because we eliminate expensive middlemen, we can sell SoundWorks for only \$199. We haven't heard a system for anywhere near its price that we think sounds nearly as good. Period.

#### 30-Day Risk-Free Audition.

With our 30-day risk-free home audition. you can listen to SoundWorks the right way - in your home, with your music. If you aren't happy, return it within 30 days for a full refund. We even reimburse your original UPS ground shipping charges in the continental II S

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CIRCLE NO. 6 OF

# A handy visual guide Home Theater Re



# to determining which ceivers are better.









Just as you have no problem distinguishing a film worthy of an Academy Award\* from those destined to be remembered (or forgotten) for other reasons, we feel your eyes and ears will have little trouble recognizing the superior performance and functionality found in Onkyo's complete line of Home Theater Receivers.

The critics already have. Our top-of-the-line THX model, the TX-SV919THX, was hailed by Technical Editor David Ranada in a recent issue of Stereo Review as "the best

AV receiver I have ever tested". Our TX-SV117PRO won the first ever "Hot Ticket" award from Home Theater Technology. And just as a great film can be made on a small budget, so can great Home Theater sound be had via our TX-SV414PRO.

So, we urge you to visit your Onkyo dealer and choose the Home Theater Receiver model that's right for you. It'll add such a new dynamic to your home viewing, you might even want to rent one of the films shown at left. They're always in.

ONKYO

Onkyo USA Corporation, 200 Williams Drive, Ramsey, NJ 07446 201-825-7950

### CAR STEREO



### Sanyo MDR-300 MD Changer Receiver

he Sanyo MDR-300 is a head unit with a detachable face. It's also a receiver with pretty healthy power output. It's also a CD changer controller. And last, but definitely not least, it's also a MiniDisc player-three of them actually. No, it's not some kind of cockamamie cartridge-loading deal, It's an MD player with three loading slots and three eject buttons. At first glance, the MDR-300 does

not look like a MiniDisc changer. If you hit the Open button, however, the front panel falls forward on its bottom hinges, revealing three MD loading slots stacked horizontally alongside their eject buttons. Each slot is marked with a back-lighted number. Three MiniDiscs can be loaded at a time, and one or two of them can be ejected and replaced while the third is playing.

The front panel does have an Off button, but if you're like me, and you simply grab the detachable face and go, the MDR-300 will remember what it was doing, and when you put the face back on it will start CD or MD playback where it left off or tune to the radio station you were listening to. The Off button has another function: When you hold it down for more than 3 seconds, it switches the display color between green and amber.

The Audio Control button is a weirdly designed four-sided rocker; the upper right and lower left corners let you vary volume, bass, treble, balance, and fader. These various controls are selected with the bottom right corner of the rocker. The top left corner is a bass-expander (BSX) control-it punches up bass response. Three mode buttons let you choose radio. CD. or MD playback: each of them turns the head unit on. The CD and MD huttons also act as play/pause controls. The radio mode button lets you step through the available bands-FM1, FM2, FM3, and AMand if you hold it down the tuner scans the preset stations in the selected band,

lets you tune the radio incrementally with its + and - ends. A quick touch gives you seek tuning, and a longer touch switches to manual tuning (an-

The Tuning/Track double rocker

PRICE \$1,500 MANUFACTURER SANYO FISHER (USA) CORP., P.O. Box 2329, CHATSWORTH, CA 91311-2329

other long touch switches you back). When you're playing an MD or CD, the rocker provides track selection or, when it's held down, audible fast search. The Display button switches the alphanumeric readout from an MD between playing time, disc title, and track title. In radio mode, the Display button selects stereo or mono.

There are six radio preset buttons, Preset 1 also provides an MD Scroll function: the selected title information (up to thirty-two characters) scrolls across the display. Preset 2 also lets you audition the first 10 seconds of CD and MD tracks, or the first 10 seconds of the first track of each disc. Preset 3 also provides track and disc repeat. Preset 4 also provides random track selection or random track and disc selection. Presets 5 and 6, designed as a double rocker with + and ends, double as disc-select controls for the MD and CD changers.

An ATP (Auto Travel Preset) button surveys either the AM or FM band and places the six strongest stations in special ATP presets (six each in AM and FM), arranged from strongest to weakest in signal strength. Hit ATP again and it will scan the ATP presets. In CD mode, the ATP button can be used to switch between two different Sanvo changers: a special divider unit is needed in the changers' control lines. An L/DX button switches the tuner between low and high sensitivity to optimize reception for local and distant stations. The mute button kills the audio output temporarily, but if it's left engaged for more than 5 minutes during MD or CD playback, the MDR-

300 powers itself down. The dot-matrix LCD screen provides a full set of alphanumerics for the usual track, timing, and clock information as well as MD track and disc titles. In addition, you'll find icons and labels for tuner band, volume level, bass and treble levels, stereo or mono reception, distant sensitivity, repeat or random playback, and so on. The display also flashes diagnostic messages-for example, when a blank MD has been loaded or when the ambient temperature is too high for proper operation.

The rear of the MDR-300 has an antenna lead, four line-level phono jacks, BMG WHAT YOU WANT JAZZ TO BE!



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### CAR STEREO

an eight-pin DIN pigtall for connecting a CD changer, and a wring-harness socket. The harness has eight speaker-lead pigtalis as well as wires for remote turn-on, power, ignition, and ground. The three power leads mu through a beety lime filter, suggesting that the head is either sensitive to RF noise or is dirty with it. Both the power and agitation leads have an in-line you'll see in a head unit. The unit's power hunger and heat sensitivity are verified by an exhaust fan on the rear punel.

The inside of the MDR-300 is stuffed with disc-changer and two stuffed with disc-changer and two port mechanics as well as tuner and a MDP-playback circuitry, including MR-playback circuitry, including AR-playback considerable and the stores up to 12 seconds of read-ahead music to buffer disc skipping, an ATRAC decoder, and 1-bit digitation-analog (D/A) converters. The unit comes with a credit-card-size working-discount of the store that the store that

#### Lab Tests

The MDR-300 was good but not great on the test bench. MiniDisc playback was somewhat inferior to good CD playback and not as good as that of some other MD players I've tested. Still, the numbers were respectable overall. For example, frequency response dropped only 0.92 dB at 20 kHz and total harmonic distribution plas noise (THD-N) was loby at the control plas noise (THD-N) was loby at the control plas noise (THD-N) was loby at the control plas noise (THD-N) was a high at the control plas of dB at 30 dB at 30 dB at 10 dB at 10

Tuner performance was pretty good, with sensitivity and adjacent-channel selectivity particular standouts. The internal power amplifiers pumped out almost 10 watts into 4 ohms, with low distortion and noise.

#### Installation

Installation of the MDR-300 was no big deal. I cleared out a DIN space in my dash and affixed the mounting sleeve by bending tabs. I popped out three transport screws from the MDR-300's chassis, slid it into the sleeve, where it locked, and screwed in a rear strap. I wired up the front speaker on puts to my front speaker sand the rear

#### MEASUREMENTS

MD SECTION	
Maximum output level	1.77 volts
Frequency response	
20 Hz to 20 kHz	+0, -0.92 dB
Channel separation	
1 kHz	70.0 dB
20 kHz	46.2 dB
Dynamic range (A-wtd.)	84.6 dB
Signal-to-noise ratio (A-wtd.)	83.1 dB
Distortion (THD+N, 1 kHz)	
at 0 dB	0.08%
at -20 dB	0.45%
Linearity error (-90 dB)	+3.6 dB
Interchannel phase shift (at 2	0 kHz)0.2°
Disc-change time	12 seconds
TUNER SECTION	N
All measurements are for FM or	nly except fre-
quency response.	
Max. output (100% modulation	a)0.73 volt
Sensitivity (50-dB quieting, mo	10)21.2 dBf
Distortion (THD+N at 65 dBf)	
mono	0.60%
stereo	0.88%
Signal-to-noise ratio (at 65 di	(f)
mono	64.8 dB

(m 65 ADE	1 kHz)	20.2.41
	ion (at 65 dBf)	
Capture re	atio (at 65 dBf)	3.0 dl
Selectivity		
adjacent-ch	annel	20.0 dl
alternate-ch	nannel	61.3 dl
lmage rej	ection	50.2 dJ
Frequency	response	
FM	30 Hz to 15 k	Hz +0, -3.2 dl
AM	30 Hz to 3 k	Hz +0, -5.9 dl

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a	utpu	t at	di	ppi	ing	(11	kH:	(:				
8	ohms										.6.8	watt
4	ohms										.9.9	wati
Ti	one-c	onl	rol	ra	nge							

+9.3 dB at 10 kHz

Frequency response

amplifier. I also took care of the remote turn-on, antenna, power, ignition, and ground connections. I did not have a compatible Sanyo CD changer (such as an AX-600 or AX-800), so I passed on that option. I clicked in the front panel, popped in a test MD, set sensitivity in the rear amplifier, and hit the road.

line-level outputs to an external rear

51.9 dB treble

#### **Road Tests**

Putting my burning MD curiosity on hold. I first tumed my attention to the radio. I tuned to both local and distant stations, changing sensitivity and stereo/mono mode as needed. The tuner did a good job of pulling in weak signals. Sound quality of strong states of the property of the

Next, I opened the front panel and loaded in three MD's-a quick and easy procedure. I also quickly learned the changer's ground rules: If an MD is in a slot (not being played), it is ejected immediately after you press its eject button. If a disc is playing when you hit its eject button, it stops playing and moves back into its slot; you hit the eject button again to actually eject it. In addition, the disc in the next numerical slot is automatically moved into playing position. After putting the front panel back, I observed that discchanging time was about 12 seconds and that mechanical noise during the process was unobtrusive.

Playing around a little, I turned the unit off and removed the front panel, as if I were parking the car. I flipped up the subplate. For reasons that defy imagination, this subplate has a cutout around the MD loading slots. In other words, when the panel is removed, the silots are open to the outside air, which surely invites dust to enter and clog the mechanics and optics. Even if

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### CAR STEREO

front clearance was a tough issue, some kind of covering should have been designed into this head unit.

The MD format's alphanumerical titles are a strong feature. In this case, the disc or track title appears complete in the display if it has less than thirtytwo characters. If it has more, it automatically scrolls. In any event, you can scroll titles by hitting the Scroll button. (Titles are always encoded in prerecorded MD's, but you have to enter them yourself when you record on a blank MD.) In my humble opinion, the MDR-300's scrolling should be faster. At about two characters per second, unless you're a really slow reader you'll lose interest (or drive into a tree) before you complete more than twenty characters.

One of MD's key benefits is its readhead memory, which stores a good amount of music data (12 seconds in this case) and can quickly replenish it if tracking is interrupted. I took the MDR-300 through some of the bumpiest roads I know and never heard a skip. Unless you're into some serious off-road recreation, skipping should not be a mobile of

Using a number of prerecorded and personally recorded MD's, I checked out the changer's sound quality. First of all, only about half the people I've tested can hear the difference between MD and CD playback under optimal conditions. In a moving car, I doubt whether anyone could reliably do it. In that context. I was pleased with the MDR-300, but not overwhelmed. In particular, in a parked car MD's didn't sound as good as CD's do, or even MD's on some other players I've tested. Don't misunderstand-it blew away cassette tape, but it lacked the high-frequency sparkle and presence of better formats. Overall, while it sounded pretty damn good. I wished it sounded better.

The onboard amplifiers were pretty good—more power and better sound than usual. Despite the exhaust fan, the unit ran very hot to the touch.

The MDR-300 is one of the most expensive head units I've ever seen, and one of the neatest. I do not like and have never liked disc cartridges; it is simply a pain to load and unload them, especially in a car or outdoors.

The MDR-300 clearly shows there is a better way. Its three MD loading slots are a real joy to use. Once you appreciate the ability to chuck 222 minutes of music into the dashboard without

any hassles, you'll wonder how you ever lived without it. The wads of fun you'll have using this unit should make up for any loss in fidelity you might notice while driving.









A Pioneer LaserDisc player will turn a good big screen TV into one that's really killer. That's because laserdisc provides you with images of striking clarity - sixty percent sharper, in fact, than a conventional VCR, along with the added impact of CD-quality sound. And with over 8.000 titles available on disc. there's definitely no shortage of things to watch. Pioneer LaserDisc players. Without one, you're simply not getting the most from your television. And when you consider how much you've invested in uour bia screen alreadu, that's a crime.





### Which Watt?

ow powerful is that amplifier (or receiver) you are considering? You might be surprised at the variety of numbers that can be applied (legitimately!) to the same product. Let's take a look at this potentially confusing situation.

The watt is a unit of power, which is the rate of doing work (in this case, moving the diaphragms of your speakers back and forth). An electrical watt is the product of voltage and current (volts and amperes), multiplied in an AC circuit by the cosine of the phase angle between them. When rating audio components, it is usually assumed that the load is a pure resistance (although it rarely is), so that the phase angle can be ignored. In practice, the phase angle of a speaker's impedance can vary widely with frequency.

In the early days of stereo, it was a common practice to measure an amplifier with only one of its channels being driven, multiplying its maximum power output by the number of channels to establish an advertised rating. When both channels operate from the same power supply, however, its voltage normally drops because of the extra load of the second channel, reducing the total power slightly (sometimes considerably). The Federal Trade Commission put a stop to that practice in 1974 by requiring that all channels be driven simultaneously when making this measurement and that the maximum distortion, load impedance, and frequency range over which a power rating applies be included in the specification. Although this ruling has not been actively enforced in recent years, it has become part of the industry-standard test procedure. In contrast with the grossly distorted claims that were once commonplace, today's power ratings are consistently honest and usually conservative.

The growing popularity of audio/video systems has led to the development of more complex multichannel amplifiers. A typical A/V receiver, for example, has five channels, for the main front speakers, a center-channel speaker, and surround speakers. How do you measure a big multichannel amplifier? In a word, carefully! The logistics of dealing with a large number of bulky load resistors, which can become very hot, is not a trivial matter. Fortunately, it is rare for all the channels of such an amplifier to be driven to full output simultaneously in normal use

In any event, I will use a typical A/V receiver as an illustration of the measurement problem. Its amplifier section is rated, according to FTC rules, at 125 watts per channel in its two-channel stereo mode into 8-ohm loads, from 20 Hz to 20 kHz, at 0.05 percent total harmonic distortion. In Dolby Pro Logic operation each of the channels (left, right, center, and the combined surround outputs) is rated at 100 watts into 8 ohms at 1 kHz with 0.8 percent distortion. The slightly reduced front-channel power, compared with the stereo rating, reflects the need to share the power-supply output with additional amplifier channels. In fact, if the same distortion and bandwidth were used for the power ratings in Pro Logic mode as in the stereo mode, they would probably come out lower still. Raising the distortion ceiling for the specification and narrowing the frequency range will invariably yield a bigger power rating.

So far, we have been considering only continuous power ratings (in this context, "continuous" means for a duration of at least 5 minutes). The rated power of an

vnamic power can be as important as an amplifier's continuous output capability.

amplifier is the maximum that it can deliver for that time into a specified load impedance, at the rated distortion, within a range of frequencies defined by the manufacturer (usually 20 Hz to 20 kHz).

Music and speech are not continuous in nature, however. Both contain neak levels far exceeding their average value. It is unnecessarily expensive to design an amplifier to deliver, say, 200 watts continuously when it may be called upon to deliver only a fraction of that power 99 percent of the time. Therefore, most amplifiers are designed to deliver considerably more than their steady-state power for brief intervals (musical peaks). This is called "dynamic power" and is a characteristic

of almost every amplifier to some degree. The dynamic-power test is made at 1 kHz with a special signal that drives the amplifier to its maximum unclipped level in 20-millisecond bursts, once per second. The output is measured on an oscilloscope and converted to an equivalent steady-state wattage, usually for load impedances of 4 or 8 ohms (we also test at 2 ohms in most cases). Dynamic headroom, expressed in decibels, is the amount by which the dynamic power exceeds the rated continuous power. Thus, an amplifier rated at 50 watts of continuous power that delivered 100 watts of dynamic power would have a dynamic headroom of 3 dB. (Because continuous-power ratings are often conservative-sometimes extremely so-dynamic-headroom figures are usually greater than they would be if they were expressed relative to the actual

measured continuous power.) Since most program material, either music or speech, resembles the dynamic test waveform more than it does a continuous sine wave, dynamic power can be as important as an amplifier's continuous output capability. A bonus for the user of an amplifier with a high dynamic-power capability is that it can play, under most conditions, slightly louder or with less distortion than another amplifier with the same continuous, or clipping, power output but lacking its dynamic capability. On the other hand, if your preference is for organ music with long, sustained pedal passages, and your speakers (and budget) are equal to the challenge, you may prefer an amplifier with little or no dynamic headroom but high continuous power capability into any speaker load you might

present to it. Most amplifiers (especially in receivers) take advantage of the inherent ability of a loosely regulated power supply to handle brief peaks of much higher power than their continuous ratings would allow. Some even use special power-supply designs that facilitate the process by responding to the signal amplitude to provide a higher instantaneous voltage to the output transistors for brief intervals. At the opposite pole are amplifiers of classic design (usually larger, heavier, and more costly) that are built to provide full power on demand, within their design limits, for signals of any duration or level. Your best choice will depend on your needs, tastes, and finances.



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So does the soldier on the left. In fact, all the soldiers in this picture have the

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### **Rotel RSP-960AX Surround Processor**

DAVID RANADA . TECHNICAL EDITOR

hthough Rotel modesthy bills its RSP-960AX as a mere surround-sound processor—me providing Dolby Pro Logic demodes—it can bience-enhancement of the modes—it can nonetheless perform nany of the functions of a complete AV preamplifier. It includes, for example, audio and video connections and switching for multiple inputs. If the RSP-960AX can serve as the one and only preamp in an AV system.

The RSP-960AX has five inputs selected by buttons on the upper right of the front panel. Two are audio only: Line is where you would plug in a CD player if you were using the RSP-960AX as a preamplifier, and Tape is where you would connect an audioonly recorder, which is fed whatever is connected to the Line input. The remaining three inputs have both stereo audio and video connectors, the latter in both composite-video and S-video flavors. The LD input is intended for a laserdisc player, whereas Video 1 and Video 2 are designed primarily for VCR's. You could, however, use any of these video inputs to connect another source, such as the audio outputs from a TV set or both audio and video from a satellite receiver. Both VCR connections are provided with inputs

DIMENSIONS 17% INCHES WIDE, 4% INCHES HIGH, 13 INCHES DEEP

13¼ POUNDS

MANUFACTURER

ROTEL OF AMERICA, P.O. BOX 8, NORTH READING

and outputs, the outputs being fed by whatever is hooked to the LD input (there are no provisions for dubbing between VCR's). A TV set gets connected to the composite or 5-video monitor output on the rear panel. As 5-video and composite signals, so if you have only one of the monitor output on the rear output of the video inputs to more determined to your TV. all the video inputs to the RSP-960AX must be of the same they of the video inputs to the RSP-960AX must be of the same they

There are six audio outputs, each at line level and each intended to feed a power amplifier; front left, center, and right, surround left and right (labeled "Reat"), and subwoofer. The subwoofer output has its own rear-panel level control, and its output can be switched so that it is either wideband with the subwoofer output in the subwoofe

The front panel likewise lacks a headphone output, but it does have controls for other, more A/V-oriented features. In addition to the central

master volume-control knob, there are pushbuttons for raising and lowering the volumes of the center and surround speakers and for turning on the level-check test signal. There are also buttons for changing the center-speaker mode from Normal to Wide or Phantom and for switching the Dolby Pro Logic surround-channel delay to either 20 or 30 milliseconds. A Bass EO button boosts low frequencies to produce a +8-dB shelf at 100 Hz and below, but its effect extends past 1 kHz, where the response is still up about 1 dB. The boosted response sounds like that of a typical bass tone control turned all the way up.

And to take at a line welf up.

And to the lower right of the front panel
the lower right of the front panel
the lower right of the front panel
tons. The awalube suggestor buttons. The awalube suggestor buttons. The awalube suggestor include
plaint two-channel steroo, Dobby Pro
Logic, and three four-speaker (centeroff) ambience modes. The Concert
Hall mode produces multiple decaying
"reflections" in the surrounds over a
period of approximately 200 milliseconds. Jazz rolls off the bass in the

front speakers (at 6 dB per octave below 200 Hz) and generates only two surround reflections. Stadium, the third ambience mode, rolls off the bass and boosts the robe in the front chamber of the stadium of the stadiu

In our laboratory measurements the SRP-960AX showed very good to excellent performance in two-channel stereo and Pro Logic. Of particular note were the low noise levels. In two-channel mode, spectrum analysis showed a very low level of high-frequency noise combined with well-controlled power-supply leakage (worst case was 60 Hz, hum at an insualthy scae was 60 Hz, hum at an insualthy scae was 60 Hz, hum at an insualthy scae was 60 Hz hum at an insualthy but have been supply to the supply the th



Every control on the Rotel processor's remote has a corresponding frontpanel LED.

#### MEASUREMENTS

PREAMPLIFIER SECTION
All measurements were taken through the LD
(laserdisc) input.
Output at clipping (1 kHz)7 volts
Input overload level
Sensitivity (for a 0.5-volt output)236 mV
Distortion (THD+N, 1 kHz)0.0038%
Noise (A-wtd., re 0.5-volt output)96.6 dB
Frequency response
20 Hz to 20 kHz +0, -0.29 dB

#### DOLBY PRO LOGIC DECODER Unless otherwise noted, all measurements

were made at unity gain (main volume setting at a approximately 2 of clock) with LD-input reference levels of 200 millivolus (m<sup>3</sup>) for the center and surround channels. All most surremans were made with the Normal center-channel setting except frequency response and channel setting except frequency response and the wide setting using MLS techniques. Frequency response

left, right ... 20 Hz to 20 kHz +0.03, -0.26 dB center ...... 20 Hz to 20 kHz +0.07, -0.77 dB surround ...... 31 Hz to 6.4 kHz +0.07, -3 dB

left, right	80.4 di
center	75.5 di
surround	76.8 d
Distortion (THD+N, 1 kHz)	
left, right	0.029
center	0.0279
surround	0.219
Surround decoder input-overloa	od
margins (at 1 kHz)	
left, right (re 2-volt input)	+3.5 d
center (re 1.414-volt input)	+5.9 d
surround (re 1.414-volt input)	+1.7 d
Surround-channel noise-reduction	on
calibration error (see text)	
Dolby spec (re 247.5 mV)	0 d
Home THX spec (re 141.4 mV)	+4.86 d
Channel separation (100 Hz to 7	kHz)
left output, right driven	>31 d
left output, center driven	>50 d
left output, surround driven	>42 đ
center output, left driven	>44 đ
center output, surround driven	>44 d
surround output, left driven	>49 d
surround output, center driven	>69 d

right on the nose according to Dolby specs (which means it is 4.86 dB high according to THX standards). Surround-channel frequency responding to THX standards). Surround-channel frequency responding to THX standards, surpoint tracking as well as an absence of the all too common overall downwards to the surround-channel response. The video switching circuitry introduced no noticeable picture degradation with critical test paterns.

But the measurements did confirm one characteristic of the RSP-960AX that had proved problematical in setting it up for listening tests. The surround- and center-speaker level controls have an unusually wide range. more than 70 dB. While the wide range is okay in itself, that the controls change the level in increments of approximately 2 dB is not. Such adjustments are too coarse to guarantee really good matching of speaker levels (depending on the sensitivities of the loudspeakers employed). So it would be a good idea to use the RSP-960AX with amplifiers that have their own input level controls to enable finer balance adjustments.

There are other, minor ergonomic

### Cambridge SoundWorks Takes Center Stage.



Our experience with Dolby Surround Pro Logic sound systems is that the center channel is very important

channel is very important. A significant portion of movie soundtracks is directed to the center channel in a Pro Logic system. It's crucial that the center channel speaker is capable of reproducing the material accurately, with proper volume level and dispersion.

Cambridge SoundWorks manufactures three center channel speakers. All three produce natural, accurate, well-dispersed sound. All three are magnetically shielded so you can place them close to your TV

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factory-direct, with no expensive middlemen, all three speakers are excellent values.

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speakers, The Surround and

radiator surround channe

disperse surround channel

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signals so you'll hear them

the way they were meant to

The Surround II. They

#### Model Ten-A. Model Ten-A is a very

moute terr-rt is a very mail (it 12" x 5"), two-way acoustic suspension speaker that is ideal for an affordable Pro Logic system. Its small size makes it easy to place near your TV. And its balanced, natural sound will satisfy even critical listeners. It is acoustically identical to the satellite speakers in our Ensemble III system. Factory-direct prior. \$60.

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#### Center Channel Plus. Center Channel Plus is an outstanding

Center Challette Pitto is an Ostisanhang center Channel speaker in that it provides culsianding accounts, performance, while subject to the pitto in the pitto in the subject to the pitto in the pitto in the subject to the pitto in the pitto in the subject to the pitto in the perfectly matches the accussis of our New Ensemble and New Ensemble II systems. The frequency range of the outer pair of wooters is intentionally tailored to maintain proper dispersion characteristics.

Because of its ultra-wide, ultra-low

profile. Center Channel Plus is ideal for placement directly on top of your TV. Or, with an optional support stand, you can place it directly beneath your TV. We don't know of any other center channel loudspeaker that offers the combination of high performance and versatility of placement as Center Channel Plus. It is our best selling center channel speaker. Factory-direct price. \$219.

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### TEST REPORTS

difficulties. The processor should be plugged directly into a wall socket or an unswitched convenience outlet on another component. If power to the RSP-960AX is totally disconnected, it will forget your volume settings for the center and surround speakers. (The problem is exacerbated by the lack of any front-panel or on-screen indication of those settings. The five indicator lights on the panel above the center and surround level controls show only which outputs are activated when the different surround modes are turned on.) Fortunately, if it loses your settings, the RSP-960AX turns the center and surround outputs all the way down rather than leaving them in some random state. On the other hand, the bass-boost feature has an irritating tendency to turn itself on after power loss. None of these problems will occur. however, if the processor remains connected to a live outlet at all times.

Aside from such difficulties, none of which are insurmountable and some of which have insurmountable and some of which you many never encounter, I had no problems operating the processor. All speaker-level adjustments, coarse though they may be, can be made from the remote, which duplicates all the front-panel controls and adds a mute function. I like the pro-

fusion of indicator lights on the front panel: Every control on the remote has a corresponding front-panel LED. Once you memorize the lights' positions, you can tell the processor's operating status at a glance from a good distance in total darkness without having to strain to read an alphanumeric disnlav.

The RSP-960AX performed very well in both stereo and Pro Logic modes. Pro Logic steering was accurate, and background noise was very low. I didn't much care for the Concert Hall ambience mode, although it was far better than many similar modes in other products, which often suffer from exaggerated artificial reverb. I found the response alterations and spatial effects in the Jazz and Stadium modes to be effective only with some program material. And, as usual, I advise you to disregard the names of these modes when deciding which one (if any) to use; try them all

On the whole, the RSP-960AX was easy to use and, in the Rotel tradition, a good no-frills performer at an attractive price. If your primary interest is high-quality Dolby Pro Logic decoding, with a little A/V switching thrown in for good measure, it could be a fine



"Say, isn't that Baxley, the wealthy loudspeaker manufacturer?"

44 STEREO REVIEW NOVEMBER 1994



## "Room Shaking

A semi truck landing after a 20 foot fall in Terminator 2. The heavy pounding of feet of a T-Rex in Jurassic Park. These are examples of the ultra-low, ultra-strong bass signals on today's movie soundtracks. Such frequencies are rare in music, and are beyond the capabilities of most speakers designed

The Cambridge SoundWorks powered subwoofers reproduce these bass signals with the power and impact you would experience in movie theaters with the very best sound systems

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Our Powered Subwoofer consists of a heavy duty, 12" long-throw acoustic suspension woofer integrated with a 140 watt amplifier - all in a black, vinvl-clad cabinet. Its control panel includes a bass level control and a fourposition electronic crossover frequency selector (to match the subwoofer to your speakers). The Powered Subwoofer reproduces accurate bass to below 30 Hz. You'll hear soundtracks the way they were meant to be heard...better than most theaters. Factory-direct price, \$699. subwoofer.

#### Our Slave Subwoofer.

For all-out home theater performance, you can add our optional Slave Subwoofer. which is identical to our Powered Subwoofer, except that it lacks the amplifier and controls. It uses the amplifier and controls built into the Powered Subwoofer. The combination reproduces a below-30 Hz signal cleanly to a sound pressure level of over 100 dB in a 3,000 cubic foot room! That's enough clean. deep hass for the largest home theaters. Factory-direct price, \$299.

deep powerful bass...31.5 Hz bass output was obtainable at a room-shaking level...they open the way to having a 'killer' system for an affordable price. Stereo Review

#### Our Powered Subwoofer II.

Our Powered Subwoofer II uses a heavy

duty 8" acoustic suspension woofer in a vinyl-clad cabinet that also holds a 120-watt amplifier. The Powered Subwoofer II's 8" woofer has a very long (3/4") "throw" for powerful, linear bass response. Its amplifier employs electronic equalization to extend uniform output to well below 30 Hz. Bass performance is, in fact, identical to that of our Powered Subwoofer. although total acoustic output is not as suitable for exceptionally large rooms. There is also no provision for connecting a "slave"

The woofer uses a unique heat sink, instead of a dust cap (see illustration). An input gain control and a variable low-pass filter let you match Powered Subwoofer II to any speaker system. Factory-direct price, \$399. Satisfaction Guaranteed.

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"I was taken aback by the ability of your Powered Subwoofer to fill my living room with ultra-low bass...I am extremely impressed with your product and will not hesitate in recommending it to anyone interested in serious bass. I am an extremely happy bass-a-holic." Guy C., Customer

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### Canon S-35 Loudspeaker System

anon's new S-35 is truly a unique loudspeaker. At first glance it resembles a stylized bust of Darth Vader. The rounded, matte black, die-cast zinc upper portion is approximately the size of a human head, and its glossy black plastic base resembles an upward-facing 90-degree cone. Inside the "helmet," facing downward, is a small cone driver (Canon refers to it as a 51/4-inch cone. but its effective diameter is only about 41/4 inches). Concentrically mounted with the cone is a 3/4-inch soft-dome tweeter. The enclosed volume of the helmet is vented by two small openings on its rear, which also contains the recessed multiway binding-post

Canon's term for the unique character of the S-35 (which, like all Canon speakers, is manufactured in Great Britain) is Wide Imaging Stereo (WIS), since the acoustic output is radiated into a considerably wider horizontal angle than with a conventional forward-firing design. Canon says the S-35's horizontal dispersion is within ±3 dB from 1 to 15 kHz over a 100degree forward angle.

The system's rated frequency response is 70 Hz to 22 kHz ±3 dB, with an axial (anechoic) sensitivity of 88 dB sound-pressure level (SPL) at 1 meter with a 2.83-volt input. The speaker is rated to handle up to 75 watts (a 50-watt amplifier is recommended), and it has a nominal impedance of 6 ohms. An internal overloadprotection system senses signals of excessive level and duration and reduces

> DIMENSIONS 10½ INCHES HIGH, 9 INCHES WIDE 91/2 INCHES DEEP

> > WEIGHT 10 POUNDS

.... \$399 A PAIL

MANUFACTURES CANON U.S.A., DEPT. SR. ONE CAND LAKE SUCCESS, NY 11042 the input to the drivers until a safe level is restored.

The S-35 speakers can be mounted on wall brackets or stands and should be angled inward toward the listening area by 35 to 45 degrees for optimal imaging. According to Canon, their integral magnetic shielding allows them to be installed close to a TV monitor or receiver without affecting the picture.

We placed the Canon S-35's on 30inch pedestals about 9 feet apart and 2 feet from the wall behind them. Initially they were facing forward, but we angled them as recommended for listening tests. The averaged room-response curve showed maximum output points at 260 Hz and 20 kHz and a uniform response (±2.5 dB) from 400 Hz to 4 kHz. The crossover to the tweeter appeared to be at about 5 kHz (quasi-anechoic MLS measurements confirmed that by revealing a narrow notch of about 12 dB at 4.9 kHz).

The close-miked woofer response indicated a ±3-dB variation from 85 Hz to 2.5 kHz (with some unevenness above I kHz, where this measurement began to become invalid). Bass output fell off at 12 dB per octave below 100 Hz but remained useful at least to the

rated 70-Hz limit.

The composite response curve, combining the close-miked bass response and the smoothed room response (which overlapped for several octaves), showed the usual variations due to unavoidable boundary effects. The curve's most obvious features were a broadly emphasized region between 100 and 600 Hz, a moderate variation in response between 1 and 10 kHz, and a rise of about 8 dB in the top octave, between 10 and 20 kHz. The MLS measurements revealed (in addition to the 5-kHz notch mentioned above) a tweeter resonance neak of perhaps 8 dB at 19 kHz, accounting for the rising high end in the room-response measurement.

The S-35's horizontal dispersion was, as might be expected from its design, very good. Over the 45-degree angle that we usually use for this test, the 15-kHz output varied only about 4 dB, essentially confirming the manufacturer's rating. But since the speaker's output has no clear access to the

### In-Wall Speakers By Henry Kloss. Inside.

We Don't Know Of Any Other In-Wall Speakers That Match Their Performance, Durability, Value And Ease Of Installation.

Cambridge SoundWorks manufacures wo different in-wall speaker systems designed by Henry Kloss (founder of AR, KLH & Adven), The in-wall version of our Ambiance™ speaker is designed for use indoors. The in-wall version of our all-weather speaker, The Outdoor, is suitable for use on the patio, by the pool, even on boats.

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#### Ambiance In-Wall Speakers.

We don't know of any ultracompact speaker - at any price better than our Ambiance speakers. (Also available in free-standing cabinets.) Henry Kloss chose a very wide dispersion tweeter for Ambiance In-Wall. It delivers

accurate midrange/high-frequency response over a very wide pattern, so you can place the system very high - or very low - on a wall and still hear realistic stereo imaging anywhere in the room. This flexibility can be very important for in-wall

installations. We don't know of any loudspeaker its size with better bass response than Ambiance In-Vall. Stereo Review magazine said. "They easily held their own against substantially larger, more expensive speakers...a lot of good sound at a hard-to-beat price." Pactory-

direct price, \$329 pr.

C wide x 11 50F high x

8 1/4" wide x 11 3/4" high x 3 3/4" deep (below mounting surface) x 3/8" (above mounting surface, including grille).





### And Out.

The Outdoor In-Wall Speakers.

The Outdoor In-Wall speaker is very similar to Ambiance in overall sound, and has the same wide dispersion pattern. It is slightly more efficient, so that it can produce

high volume levels with a reasonably powered receiver reasonably powered receiver which is very appropriate for an outdoor speaker. It has an electro-plated steel grille and a stim-line enclosure with a traced polymer shell. Unilike other inwall systems, its mounting frame is integrated with a fully scaled enclosure that provides not only weather resistance, but also proper acoustic loading for the seaker drivers. It includes stainless steel hardware and goldplated five-way binding posts. (Also available in free-standing cabinets.) Factory-direct price, \$329 pr.

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"A Lot Of Good Sound At A Hard-To-Beat-Price." Stereo Review

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### TEST REPORTS

rear, a 90-degree off-axis measurement showed a drop of 10 to 15 dB in the range from 10 to 20 kHz.

The impedance characteristic was distinctive, with three large, narrow peaks, to 27 ohms at 30 Hz and 100 Hz and to 23 ohms at 1 kHz. The minimum reading of 5 ohms at 250 Hz and 20 kHz, however, justifies the speaker's nominal 6-ohm rating.

speaker's nominau-o-ourn rating.

Our measurements confirmed the rated sensitivity (88 dB SPL at 1 meter with a 2.83-volt inpun). Woofer distortion measured between 0.6 and 1.5 percent from 100 Hz to 2 kHz, rising at lower frequencies to 5 percent at its trated 70-Hz limit and to 10 percent at 30 Hz (where its output was too low to be useful).

In listening tests, the Canon S-35 sounded pretty much the way its response measurements would suggest. It had a pleasant warmth, almost certainly due to its slight emphasis in the lower midrange. The highs, though clearly present, were not prominent (the tweeter resonance peak being at the upper limits of human hearing). There was none of the sizzle that sometimes signals a peaked top end. The overall sound character was distinctively different from that of more conventional speakers, imparting a sense of air and space that seemed to fill the entire region between the speakers but had little correlation with the apparent source of the music. In spite of that effect, spatial imaging with the Chesky JD37 test disc was as

good as we have ever heard. Our pulse power tests proved the effectiveness of the speaker's protective system. At 100 Hz, the circuit effectively "soft-clipped" the drive signal at a point where the sound took on a hard quality (in the vicinity of 200 watts). With further increases in level the signal was merely clipped a bit harder (we did not attempt to test the limits of the protection, since the sound became rather ominous at about 250 watts). At higher frequencies, the speaker's impedance rose to the point where our amplifier's output was voltage-limited to the equivalent of about 300 watts at 1 kHz. At 10 kHz the tweeter output was severely clipped at 800 watts, but without any permanent damage.

To check Canon's claim of magnetic shielding, we measured the field at the outer surface of the S-35. It never exceeded 2 gauss and was typically much less. The speaker is obviously safe to use in an A/V system.

Once you see that "yespen."
Once you seep the odd appearance of the Canon S-35, it is a very easy speaker to live with and listen to.
Its subjective base is all one would expect from a conventional speaker of its size (or two or three times its size), and it is designed for flexible installation. In fact, with a little imagination in its placement, it might never be tak-



"Now then, was that Mr. Coleman live, or was that Mr. Coleman on tape?"

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### Parasound HCA-1206 Six-Channel **Power Amplifier**

he Parasound HCA-1206, designed by the well-known circuit designer John Curl, is an exceptionally powerful and versatile high-performance power amplifier certified by Lucasfilm for use in Home THX surround-sound systems. It is also suitable for multiroom audio systems or any other application requiring as many as six independent high-power amplifiers.

With all channels driven, each channel of the HCA-1206 is conservatively rated to deliver 120 watts into 8 ohms. or 180 watts into 4 ohms, from 20 Hz to 20 kHz with less than 0.07 percent total harmonic distortion (THD), Although all its channels are identical, Channels 1 and 2 are designed specifically for the front channels of a multichannel sound system and cannot be bridged. Channels 3 and 4 and Channels 5 and 6 can be switched to bridged mono operation, in which each bridged pair is rated at more than 300 watts into 8 ohms.

Each output channel is rated for operation with loads as low as 4 ohms, although a pair of bridged channels should not be used with loads of less than 8 ohms. That limitation is not due to any lack of current-delivering abili-

> DIMENSIONS 19 INCHES WIDE, 736 INCHES HIGH, 181/2 INCHES DEEP

> > WHIGHT

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ty for short intervals, but prolonged high-current operation could create excessive temperatures in the amplifier. which does not have an internal fan. The HCA-1206 is a large, very

heavy amplifier, weighing more than 70 pounds. It is equipped with handles on the front and rear panels. The output circuitry is located along the inner sides of the cabinet, and exterior heatsink fins cover the full depth of each side. The heavy steel top cover is also extensively perforated for ventilation. The output stages use a total of twenty-four 60-MHz, 15-ampere output transistors in matched complementary

A huge power transformer (which surely supplies a good share of the amplifier's weight) is located in the center of the HCA-1206 just behind the front panel. It is rated at 1.7 kVA (kilovolt-amperes), consistent with the amplifier's potential for delivering more than a kilowatt of clean audio power. Parasound says that the power supply contains more than 120,000 microfarads of computer-grade capacitors. Although the power supply and related components, plus the actual output transistors (four per channel), occupy most of the HCA-1206's inteJust because you want a smaller audio system doesn't mean you should have to accept lesser sound quality, fewer functions or less convenience. Denon was among the very first to produce compact component systems that deserved to be called high fidelity and Denon's new D-700 and D-500 systems carry on the tradition in full-featured, high performance glory.



Each new Denon D-Series system comprises separate pre-amp and power amp sections, a 3-disc CD auto-changer, double auto-reverse cassette deck, graphic equalizer, AM/FM stereo tuner, high efficiency 3-way loudspeakers and full system remote control.

The D-500 generates 45 Watts per channel of clean, powerful sound. Its programmable equalizer gives you five preset curves and lets you save five you create. The D-700 adds more power per channel, and its programmable graphic equalizer also includes a DSP sound processor that gives you 10 preset effects modes and lets you store 10 more of your own.

The elegant industrial design of the D-Series perfectly complements its superb audio performance. You see, with Denon Compact Component Systems, the only thing you give up is some space.





# Definitive's Amazing BP20s Win Top Critic's Choice Award!

– Sound & Vision Magazine

Experience the miracle of bipolar technology when you hear the absolute sonic superiority of Definitive's revolutionary BP8, 10 & 20

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— Stereo Review

Sound & Vision's Critic's Choice Award is one of the industry's top honors. It's no wonder experts agree that Definitive's revolutionary bipolar BP8, BP10 and BP20 are three of the world's finest speakers and are sonically superior to any conventional speaker, regardless of cost.

al speaker, regardless of cost. These American-made, advanced technology bipolar (front and rear radiating) systems combine lush spacious soundstaging, lifelike depth-offield, razor-sharp resolution and pinpoint 3-D imaging with powerful subwooler-like bass (to below 20 Hz), high efficiency, wide dynamic range

and easy-to-position convenience. The dramatic result is superb music and movie reproduction so real that it has been called, "a sonic miracle!"



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Definitive Technology

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rior, there is also a single fairly large circuit board containing the low-level amplifier stages and no fewer than fifteen fuses of various types.

Numerous other circuit and construction features contribute to the unusual character of the HCA-1206. These include cascode Class A inputstages, complementary MOSFET havvoltage drivers, and Class A/AB bivoltage drivers, and Class A/AB bised output transistors direct-coupled to the speakers without intervening phase-correcting networks. The amplifier also contains a number of temperature sensors and protective relays.

aurre sensors and protective relays.

The front panel is comparatively stark. Besides the two massive handles, there is a rocker-type on/off switch, an adjacent LED power light, and six LED's to indicate instantaneous current overload in each of the six channels.

The rear apron actually serves some of the functions usually allocated to a front panel. Six pairs of multiway binding posts, which accept stripped wires or bannan plugs, are along the bottom, plainly marked to show their function. Channels 1 and 2 are labeled non-bridgeable, and the others are marked MonoBridge. Small toggle switches above Channels 3/4 and 5/6 are normally set down for separate channels, up for MonoBridge operation.

up nor monorruge operation.

Across the rear apron, just above the switches, are three pairs of gold-plated phono-jack inputs with small toggle switches between each pair. These inputs are used to "loop" signals from the inputs of Channels 1 and 2 to either or both of the other pairs. That simplifies multiroom stereo installations, allowing the routing of stereo programs to other zones without external jumper cables or Y adaptors.

Finally, across the top of the rear apron are six level-control knobs to balance the volumes in different rooms of a multiroom installation. When the knobs are turned to the dot marked THX (the maximum clockwise setting), the amplifier meets Lucasfilm standards for playback amplifier gain.

Our bench tests of the HCA-1206 were limited to its functions as a two-channel stereo amplifier, atthough we also applied its preconditioning phase (1 hour at one-third rated power into 8 ohms) to Channels 1 through 4. The

#### MEASUREMENTS

MEASUREMENTS
All figures for Channels 1 and 2 only except
as noted
Output at clipping (1 kHz)
8 ohms
4 ohms
Clipping headroom (re rated output)
8 ohms
4 ohms 2.4 dB
Dynamic power
8 ohms
4 ohms
2 ohms
Dynamic headroom (re rated output)
8 ohms 2.0 dB
4 ohms
Distortion at rated power0.011%
Sensitivity (for 1-watt output) 105 mV

top cover of the amplifier became very hot—not enough to burn, but uncomfortable to touch for more than a couple of seconds. During our other tests it ran comfortably cool.

ise (re I-watt output, A-wtd.)

The Parasound HCA-1206 is certainly one of the most powerful and most versatile power amplifiers we have seen in its price range. For Home THX setups or a top-quality multi-room installation, it should be hard to beat (or match, for that matter). After we overcame our initials wariness about one of the properties of

A final note: Parasound's manual for the HCA-1206 is quite specific in respect to do's and don'ts, and on using its operating versatility to best advantage. It is one of the few power amplifiers we have seen that is actually versatile enough to require such information, and it was reassuring to find it provided in a well-done owner's manual.

Obviously, an amplifier of the caliber of the Parasound HCA-1206 is going to do an absolutely first-class job in any home music installation. In my view, this amplifier is about as good as they come.

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Our CES Design & Engineering and Sound & Vision Critic's

#### Perfect for Your System

To ensure optimum performance in your home, the PowerFields have high and low level inputs and outputs, adjustable high pass, low pass and volume controls (plus phase controls for the PF 1500 and 1800) to guarantee perfect blending with any system and superior bass response in any room.

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Three extraordinary Definitive powered subwoofers are now available: the PowerField 15 (185-watts RMS, 15-inch at \$699). PowerField 1500 (250-watts RMS, 15-inch at \$995) and PowerField 1800 (500-watts RMS. 18-inch at \$1599). Hear them today!

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### Technics SL-PD1000 CD Changer

ne of the most popular audio components these days is the five-disc CD carousel changer. At little or no more cost than a single-disc CD player, a carousel changer makes it possible to play music for hours without having to reload discs, and most changers have all the operating and programming features of a single-disc machine.

The Technics SL-PD1000, in addition to the conventional features of five-disc carousels, provides a number of unusual operating modes that, as a group, distinguish it from the others.

In its general appearance and operation, the SL-PD1000 is typical of carousel players. An open/close button on the front panel causes an almost fullwidth drawer to emerge from the lower part of the panel, revealing two disc-loading wells. The Disc Skip button rotates the carousel to allow up to five discs to be loaded, and a second touch on the open/close button closes the drawer smoothly and quietly.

The display window on the panel normally shows the number of the disc and track currently playing and can be switched via the remote to show the elapsed or remaining time on the track or disc. It also has a symbolic display of the loaded carousel positions, giving the user a clear picture of the player's invisible interior.

(stop, pause, play) are full-size buttons to the right of the display, with smaller

The basic CD operating controls

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buttons for fast search and track skipping. Above them is a row of small vellow illuminated buttons, numbered 1 through 5, that indicate the loaded disc positions (the one for the playing position glows green). The nearby Disc Skip button (not illuminated) rotates the carousel to place any disc in the playing position. Used in connection with the disc- and track-selection buttons, a Program Mode button allows up to thirty-two selections from the five loaded discs to be played in any order.

On the opposite side of the panel is a group of buttons that operate a number of additional programming features. ID Scan is a "music sampler" that is very convenient when you're looking for a particular selection on a disc. Pressing the button rapidly moves the laser pickup to the approximate midpoint of each track and plays it for 10 seconds before going on to the next track. To play the current track from its beginning at any time. you merely push the play button

One of the unusual features of the SL-PD1000 is called Memory Reserve. Normally, a CD changer goes silent for a few seconds when it s changes discs. The interval before the

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and bipolar surrounds puts you right into the movie action.

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new disc starts playing is punctuated only by the mechanical sounds of the changeover. When the Memory Reserve button on the SL-PD1000 is pressed, its digital audio data stream is passed through a 4-megabit digital memory, which can store several seconds of program, and playback is from the memory, not directly from the pickup. Therefore, when a change cvcle begins, the last few seconds of music in the last selection on the current disc continue to play from memory, uninterrupted, while the discs are changed, effectively shortening the change time by about 3 seconds. Memory Reserve can also be used to shorten the intervals between selected tracks on the same disc

A green LED next to the Memory Reserve switch indicates that it is active. During a change, the light blinks rapidly whenever you are hearing the delayed program. When Memory Reserve is used in conjunction with ID Scan, the result is called Parade Scan. The transition between scanned tracks takes place almost instantaneously, giving the effect of a nearly continuous flow of music (especially with a disc having a large number of brief selections, such as a sampler),

Technics recommends that the Memory Reserve switch be left on at all times since it has no deleterious effects on other playing modes. The only reason not to use it is when the player's digital output is required, since that feature is disabled by Memory Reserve.

The SL-PD1000's random-play mode can select tracks randomly from one disc or from all five. An interesting variation of random play is Spiral Play, which plays the first track of Disc 1, followed by the second track of Disc 2, the third track of Disc 3, and so on until all the tracks of all the discs have been played. There is also a useful Delete feature that can select up to thirty-two selections not to be played and store them in the player's memory, where the information remains as long as the player is plugged into a power source.

Other features include a repeat function that is effective on all the other programming modes; Auto Cue, which puts the player into a standby condition at the beginning of each track, ready to start when the play button is pushed; and Edit Guide, which automatically programs the player for tape dubbing in accordance with the length of the tape so that no tracks will be interrupted before they are completed (a 4-second silent interval is left between tracks)

The SL-PD1000 comes with a remote control that duplicates virtually every front-panel function, including power switching and programming, and adds some of its own, like the time-display control. The rear panel has analog phono-jack outputs and an optical digital output.

The performance specifications for the SL-PD1000 are typical of today's better CD players. Like other Technics CD players, it uses MASH 1-bit digital-to-analog (D/A) conversion to preserve signal linearity down to the lowest levels. Technics says that the changer's automatic digital servo system for the playback laser improves disc-tracking performance with eccentric, warped, or scratched CD's.

The SL-PD1000 proved to be better than average in tracking through gaps



emory Reserve shortens the discchange cycle by about 3 seconds and can make track changes almost instantaneous.

in a disc's information layer. Playing the Pierre Verany #2 test CD, it showed only a slight tendency to mistrack through 2,400-micrometer interruptions in the recorded pattern (or even through two of them in rapid succession). The player is exceptionally resistant to physical impact in spite of its relatively light construction; we were unable to make it skip with the hardest palm or fist blows we dared to apply to its top or sides.

The SL-PD1000 was very quiet, even during change cycles, when many changers make surprisingly audible mechanical sounds. Track changes over most of a disc's surface were rapid, often under 3 seconds even without Memory Reserve, and nearly instantaneous in many cases when Memory Reserve was used. Disc changes typically took 8 or 9 seconds in the worst case (between disc positions 2 and 5 with Memory Reserve off).

In short, the Technics SL-PD1000 is an ideal changer to produce background or party music as well as nearly continuous playback of multipledisc sets.

### MEASUREMENTS

Maximum output level2.34 vo	lts
Frequency response	
20 Hz to 20 kHz +0.05, -0.01	ΙB
De-emphasis error (at 5 kHz)+0.32 c	SB
Channel separation	
100 Hz	ß
1 kHz96 c	1B
20 kHz	(B
Signal-to-noise ratio (A-wtd.)94.7	1B
Quantization noise89.9	1B
Dynamic range	iB
Distortion (THD+N)	
1 kHz at 0 dB	9
1 kHz at -20 dB	96
20 Hz to 20 kHz at 0 dB 0.006 to 0.035	96
Linearity error (-90 dB)+1.5 a	iB
Max. interchannel phase shift0.1	40
Defect tracking (Pierre Verany #2 test	
disc)	m
Impact resistance	
top and sides	4

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### Cambridge SoundWorks Ensemble III Loudspeaker System

he Ensemble III is a smaller version of Cambridge SoundWorks' earlier subwoofer/satellite speaker systems (still in the company's line), offering their basic qualities at a significantly lower price. The system consists of two satellite speakers, each small and light enough to hold in the palm of one hand, and a separate bass module that can be located almost anywhere (but preferably somewhere in the vicinity of the satellites)

The 11-pound bass module, constructed of medium-density fiberboard and finished in black vinyl, is considerably smaller and lighter than those in most three-piece systems. It contains a single 61/2-inch long-excursion driver with a dual voice coil (each driven from one stereo channel), with the low frequencies being summed in the speaker itself. The driver is mounted in an inner chamber, which opens into a second chamber vented to the out-

side through a flared port. The bass module handles the frequency range below 140 Hz.

Each satellite contains a nominally 31/2-inch cone midrange driver (the actual effective diameter appears to be closer to 21/2 inches) and a 3/4-inch

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dome tweeter protected by a perforated metal grille. The enclosure is made of ABS plastic laminated to a stiff, acoustically damped inner shell. As in the other Ensemble systems, each speaker module contains its own crossover components so that the modules can be connected in parallel in any order. The bass unit has two pairs of insulated spring connectors, and each satellite has a pair of recessed knurlednut binding posts. Like other Cambridge SoundWorks speakers, the Ensemble III comes with 100 feet of 18gauge speaker wire and a wire cut-

ter/stripper plus complete directions. We installed the Ensemble III satellites on 26-inch stands about 7 feet apart at the front of the room and 3 to 4 feet from the walls. The bass module was placed on the floor between them. close to the left speaker, with its port facing forward. The room response of the satellites alone, averaging their outputs measured at a position about 12 feet in front of the left speaker, was exceptionally free of irregularities due to boundary reflections and room resonances, with an overall variation of less than 3 dB from 150 Hz to 20 kHz. The output fell steeply below 150 Hz, to about -20 dB at 100 Hz

A close-miked measurement of the satellite's cone driver indicated an extremely flat response, ±2 dB from 150 Hz to 1.4 kHz (and less than ±1 dB over most of that range). At higher frequencies this measurement is not valid, although the response irregularities were still quite moderate

We made a separate response measurement at the port of the bass module. The curve was predictably doublehumped because of the two coupled resonant cavities, with a ±3-dB variation from 43 to 180 Hz and falling off rapidly at lower frequencies.

A composite of the room response with the two close-miked measurements (all of which overlapped the adjacent curves for an octave or more) produced an impressively flat graph. within ±1.5 dB from about 50 Hz to 11 kHz and rising about 8 dB from 11 to 20 kHz. The rise was apparently due to a tweeter resonance at about 17 kHz. That was confirmed by our quasi-anechoic MLS response measurements at 1- and 2-meter distances.



which clearly showed a peak of about

12 dB at 17 kHz. The satellites' horizontal dispersion at 45 degrees off-axis was good (fairly typical of a 3/4-inch tweeter), with an output drop of 4 dB at 10 kHz, about 6 dB at 15 kHz, and 12 dB at 20 kHz. The MLS frequency response was within 5 dB overall from 500 Hz to 11 kHz except for a sharp dip of 10 to 12 dB at 4.8 kHz, which affected only the frequencies between 3 and 5 kHz. That may have been related to the crossover between the satellite drivers and was not detectable in the room response or in listening.

The complete system's impedance remained below 8.5 ohms from 20 Hz to 1 kHz, with a minimum of 2.8 ohms at 190 Hz. It rose to a broad maximum of about 18 ohms in the 4- to 5-kHz region before dropping to 10 ohms at 20 kHz. Sensitivity, measured 1 meter from a satellite and on its axis, was 87 dB sound-pressure level (SPL) with a 2.83-volt random-noise input. The bass module's distortion at a 4-volt level (equivalent to 90 dB SPL) was about 10 percent from 20 to 50 Hz. falling to 3.5 percent at 100 Hz.

The bass module's driver bottomed with a single-pulse 100-Hz input of 980 watts. Although its output became visibly distorted on an oscilloscope at considerably lower inputs, the cone did not suffer damage from this rather extreme treatment. The satellite drivers also survived high-power pulse tests at 1 and 10 kHz.

The Ensemble III sounded as good in our listening tests as it measured, which is to say that it sounded very good indeed. There was no audible indication that the bass frequencies originated several feet from the satellites, and the system's sound was first-rate in every respect. Certainly there was no clue to the size of the drivers or the low cost of the complete system. Compared with some other speakers at or above its price level, the Ensemble III held its own very well. Probably its most distinctive audible characteristics were a slight crispness (probably due to its emphasis in the uppermost octave) and a total absence of artificial upper-bass tubbiness or boom. But there was no obvious lack of clean bass down to 50 Hz or so, below which it disappeared rapidly. And the system can play loud enough to impede conversation if that's what you want.

We have consistently found Cambridge SoundWorks speakers to be excellent values in every respect. Their designs do not claim to bypass natural laws, and they are offered with a refreshing lack of hype. The Ensemble III, like many of the company's other products, also manages to sound like a lot more speaker than its unassuming appearance and very attractive price would suggest.



**MB** QUARTI Authorized De

## THERE ARE AS MANY HOME THEATER SPEAKER BRANDS AS THERE ARE MEMBERS OF CONGRESS.



## AND MOST OF THEM AREN'T WORTH LISTENING TO EITHER.

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You'll see and hear why QUART Home Theater speakers are a breed apart. Our CTR CENTER CHANNEL, for example, achieves a higher level of dialog definition and localization by not conforming to popular dual drived esigns. Our SUB TEN marries a 10" wooder with a 100W amplifier-yet is priced lower than other subwoofers that offer far less in extrems of both sound and power. To stand up

to the dynamic demands of surround sound, we created the rear channel POINT FIVE, with a special titanium dome tweeter and long excursion 6.5" woofer, and the QUART 250, with angled cabinets that mirror each other for proper mounting on opposite side walls. In-wall models are also in the MB QUART Home Theater lineup.

What it all comes down to is this—MB QUART Home Theater speakers are every bit as long on performance as they are on promise. Which is more than can be said for most congressmen.

**MB** QUART

## WHY WE'RE INTRODUCING A TWO DOOR NEON.

( A.)

WE RAN OUT OF DOORS.

( B.)

WE FORGOT TO PUT THE OTHER DOORS ON.

(c.)

ONE DOOR DIDN'T SEEM LIKE ENOUGH, BUT THREE SEEMED LIKE TOO MANY.

( D.)

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THAN FOUR DOORS.

Hi. Now, to go with our friendly, familiar Dodge Neon four-door, there's a Neon for people who like things in twos. The Neon Sport Coupe. With a really responsive 2.0 liter engine. Two airbags (driver and front passenger), standard. And, perhaps most obviously, two doors. Of course, we haven't lost our fondness for things in fours. You'll also get four valves per cylinder in the husky four-cylinder engine. Four-wheel anti-lock disc brakes. Four 14" aluminum wheels fitted with four all-season performance tires, attached rock-solidly to a four-wheel independent performance suspension.



The new Dodge Neon Sport Coupe. One more wonderful Neon, with two less doors, to choose from. At your friendly Dodge dealer.

#### NEON SEDAN & COUPE





Restling alog a set of Mensair MAGOD TITIC approved alogic channel power anoptiers (1250 sets) as a Forgata Model Form Service Seven processor (15.000), which was recommend sound processor (15.000), which was proprietary stateing techniques to both Protopic description and multichannel music galancement.



Variety and
flexibility are just
two reasons to
consider separate
electronic
components
for an A/V system.
BY DANIEL KUMIN





#### THE FINER POINTS

Once you've decided which type of surround separate best suits your needs, there are still anameter of points to consider. Pay attention to the variety and sophistication of any "extra" surround modes the component offers. Today, virtually all surround components (AV receivers incided provide Dolly Pro Logic decoding for a live-speaker surround system. Meat also include several additional surround modes life-tuned for fill infinitedeor music corresems.

Many processors have a "Mairix" mode, which adds surround-channel ambienes to conventional two-channel ambienes to conventional two-channel ambienes to the surround state of the surround at loss of reverberation to the surround state of the s

A number of processors go barther, providing DSP surround modes for both providing DSP surround modes for both movies and music, because the term 'DSP' is a source of considerable constantion (will be no rised from consecure advertising), it's important to distinguish between the time ways digital signal processing on the same of the provided confect. Most Dobly Surround decoders (the increasingly hard-fort discovers (the increasingly hard-fort discovers from control of the provided control of the provide

milliseconds of surround-channel delay required by Dolby. While that certainly qualifies as digital processing, it's probably not what most of us think of when we see DSS in an ad

Next come those processors that perform some or all of their Pro Logic (and other) decodings and processing in the digital domain, including channel steering and domain, including channel steering and domaintaine. This is essentially a pure ongineering choice: In terms of real-world performance, a digital processor chip has no overwhelming advantage over a good analog one, and it typically costs more.

Finally, there are those processors that use DSP to open the door to "extra" surround modes, which can be quite elaborate. All-digital devices like Lexicon's CP-3 Plus and Yamaha's DSP-A780, to name but two, offer custom surround modes with elaborate ambience enhancement (achieved by manipulating early reflections, reverberation, and other ambience components). Such devices typically offer a beyy of user-adjustable parameters (like echo density and reverberation time) as well as a number of surround presets for music listening and for non-Dolby film and video sources: Lexicon even includes an innovative two-channel DSP mode to recreate a binaural listening experience

The bottom line: Selecting a DSP-based surround-sound processor just because it is "digital" is not really a good idea. Evaluate the features and performance first, then worry about the technology. —D.K.

over speakers instead of headphones.

dimensional experience, and is mainly intended to enhance a classic stereo system built around a preamp and discrete power amplifiers. It can be connected to the preamp's main outputs or in a tape-monitor or processor loop. The hallmark of today's surround processors is a Dolby Pro Logic decoder, which extracts four channels from Dolby Surround-encoded movies. TV shows, and music recordings and routes them to five line-level outnuts-left center right and two surrounds (the same mono surround signal goes to two speakers). Most processors also have additional surround settings for music listening, adjustable "sound-field" parameters that let you tweak up your own acoustic environment, and one or two "enhanced" modes for movies and video sources. An A/V preamp combines audio/

video switching and control functions with a surround processor/decoder. (A few components billed as "A/V preamps" have video switching but no surround-sound capabilities.) In addition to reducing the box count by one. an A/V preamp also greatly simplifies wiring chores and source switching. since all of your audio and video sources are routed through a central component. An A/V preamp/ tunereffectively an A/V receiver minus the power-amplifier sections-further integrates functions while allowing flexibility in choosing outboard amplifiers. An A/V preamp makes a lot of sense if you're assembling a surround system from scratch or if you want to add A/V switching and surround capabilities to a component audio system. in which case you simply replace the two-channel stereo preamp with a

multichannel A/V model. When it comes to the third category, the processor-amplifier, the line between "separate" and "integrated" components begins to blur. Designed primarily to add A/V switching and surround capabilities to an audio system based on an integrated amp or receiver, most processor-amps contain a Dolby Pro Logic decoder and two or three supplemental power amplifiers. The receiver or integrated amp continues to drive the main left and right speakers, while the processor-amp (which you patch into a tape or processor loop) powers the center and surround speakers.

#### **Why Separates?**

Given the utility and convenience of A/V receivers, why would anyone



processing and a digital AM/FM tuner with forty station presets. Its companion, the 600-watt Kenwood KM-X1 six-channel power amplifier (\$1,099), is also THX-certified.

want to go the separates route? The most common reason is to preserve a perfectly good two-channel system. There's no rule that says you have to mothball your current speakers and components to embark on the home theater quest. In fact, the easiest and most economical way to bring surround sound to a conventional receiver-based stereo system is to add a processor-amp and three more speakers one to handle center-channel information (which includes most dialogue in movie soundtracks) and two for the surround-channel information (mostly sound effects and ambience).

to home theater.

A basic processor-amp such as Onkyo's ES-600PRO (\$410) will provide several surround options, including Dolby Pro Logic, and adequate power to drive three extra speakers (the ES-600PRO delivers 50 watts to the center and 20 watts to each surround). A more powerful add-on processor-amp like Adcom's GSP-560 (\$600), which delivers 80 watts to the center speaker and 40 watts to each surround, may be worth considering if you think you might upgrade to higher-power separates in the future. Processor-amps are also available from AudioSource, Carver IVC Kenwood Yamaha and others. Prices range from \$200 to \$700.

If you already own a collection of high-performance separate audio components, there are a few more surround-upgrade options to explore. While an add-on processor-amp will



The Yamaha DSP-A780 five-channel A/V integrated amplifier (\$899) incorporates sixteen digital sound-field-processing functions, including twelve for video-priented listening and four for music enhancement, as well as handy on-screen menu operation.



Dealers can retrofit Lexicon's classic CP-3, a stand-alone THX/Pro Logic decoder and ambience processor, to CP-3 Plus (\$3,200) status with a new program chip for \$250. Enhancements include some left-right steering of the normally "monophonic" surround outputs

#### **POWERING UP**

If you find yourself irrevelling the standalions processor or AV presspor rook to home theater, one thing's for sure: You're going to need some extra power. Even if you plan the mest basic Dablyy Pro Logic setup (and assuming you already own a good two-channel amplitter to power the rorat left and right speakers), you'll need to drive a coefer speaker and two surreads speakers. The simplest solution is to drive the surroundin parallel from one amp channel, which is perfectly fine since the surround channel of Dably Surroundmonded poundersols is more anyway.

But if your new surround processor has some of these "extra" surround modes, including Home Titl, and more OSP music settings, and you want to put them to work, you'll need extra discrete channels of amplification to produce the intended effect: center and "decorrelated" surround channels for Home Titlk, center and two separate surround channels for Home Titlk, exister and two separate surround channels in the case of some OSP-enhanced music modes. And channes are that you're point to warf a subwooder to aqueeze every last bit of sucliments out of those blockbuster movie soundfracks like Title Adyse, which means at least siz dedicated amp channels.

While there's no magic formula for determining how much power to use for the extra channels you're adding to your

spates, it's sale to any that the center speaker schold receive about a same wattage as your main left and right speaker. For the servound speakers, you may be able to get away with about 25 percent as much power—misses the norsh a particularly high or the speakers particularly leading to the speakers particularly high or the speakers particularly being in up substantially. And for a subbootlery will want at least as much never as fur the food channels.

Before you run cut and buy the or these two-channel amplifiers to satisfy the power requirements of your new surround system, be sure to check out the new breed of four-five-, and six-channel power amplifiers designed for fissibility. NAO's Model 906, for example, is raised to deliver-30 watts into such old six chenances, but any pair of its channels can be bridged to deliver 50 watts in a three-, tone-, or thre-channel configuration. Mellichannel AV amps from Acures, BAK, Carvar, Rotel, ADS, Forlé, Parassound, and others provide nailter facilities.

If you're starting from scratch, of course, a five- or six-channel amp can provide all the power you need for an entire home theater system. Carver's AV-405, for instance, provides a one-hox solution for a five-channel system with 100 wattr each for three channels and 50 watts each for another two. likely do a fine job, separates-oriented audio enthusiasts tend to prefer standalone processors such as Carver's slim DPL-20 (\$380), which provides basic surround options, and the Fosgate Audionics Model Four (\$1,000), a sophisticated device with unusually flexible music-surround modes.

If you go with a stand-alone processor, you'll also need an outboard power amplifier or two to drive those new home theater speakers (see "Powering Up" at left). But that can be an advantage because it enables you to apportion power to meet specific system requirements (you have an oversize room and need a beefy surround-channel amplifier, for example) rather than being locked into the power supplied by a processor-amp. It also gives you an excuse to upgrade an aging power amplifier: You can relegate the old amp to surround-channel duty and use the shiny new one to drive the main front channels. Other companies offering stand-alone processors include Rotel, Harman Kardon, and Pioneer. Prices range from \$400 to \$1,000.

#### The THX Connection

THX-style home theater is yet another reason to consider the full-separates route. Although integrated components bearing the Home THX logo are beginning to appear on store shelves, including A/V receivers from Onkyo and Technics, nearly all Home THX-certified surround "controllers" (decoder/processors) are stand-alone components. In addition to a THX mode (which implements specific technical refinements devised by Lucasfilm to squeeze as much realism as possible out of a Dolby Surroundencoded soundtrack). THX-equipped processors typically provide very high performance and flexibility in both Dolby Pro Logic mode and non-Dolby video and music modes. They also tend to carry steep prices, typically in the \$1,500 to \$4,000 range.

ne s<sub>1,20</sub>00 to 8-30,000 range.

One of the nost sophisticated standalone Home THX processors is Lexicon's S3,200 CP-3 Plus, featuring a number of highly configurable digital surround modes for both movies and music. The S4,200 PAV in Madrigale able surround processing power-term of the proceed line abor provides considerable surround processing power-term of the proceeding the

Many high-end stand-alone surround processors, including those mentioned above, actually straddle the



NAD's Model 906 reconfigurable multichannel power amplifier (\$699)

#### "Highest Performance...lowest profile."

#### POLK AUDIO'S HIGH PERFORMANCE CENTER CHANNEL SPEAKERS

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Matthew Polk

Since all on-screen action, not just dialog, is reproduced by the center speaker, its performance is critical.

Dynamic Balance\* enables us to create small driver components that deliver the sound quality usually associated with much larger drivers. And because there's no sonic coloration, our center speakers will blend seamlessly with your other speakers so voices and sound effects will pass from speaker to speaker without changing timbre or pitch.

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speakers the versatility to fit anywhere you want them without fear of picture distortion. Select from the C\$350, C\$250 or C\$200 for the right speaker to fit your system and your budget.

For more information on the Polk center channel speakers or any Polk home theater speaker, call 1-800-377-POLK or dial our toll-free dealer locator to find your nearest authorized Polk dealer. An audition will show you that Polk delivers on "highest performance...lowest profile."

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Only Yamaha
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creates phantom
speakers. It
sounds so real,
you'll swear you
hear sounds
in places you
don't even

have speakers.



Bats screech overhead. Wolves howl in the distance. And footsteps crunch across your living room floor. No, it's not your imagination. You're hearing sounds placed around the room, just as the director intended.

All courtesy of Yamaha Cinema DSP. The home theater technology that gives dialogue

more definition. Music, more dimension. And sound effects, more graphic detail.

Only Yamaha Cinema DSP creates phantom speakers that fully replicate the experience
you get in multi-speaker movie theaters. It sounds so real, in fact, you'll swear you hear
sounds in places you don't even have speakers.

As you might imagine, a breakthrough like this is no small feat. It's accomplished by multiplying the effects of Digital Sound Field Processing and Dolby Pro Logic."

Digital Sound Field Processing is Yamaha's unique technology that electronically

recreates some of the finest performance spaces in the world.



## at what comes out of the woodwork.

And Dolby Pro Logic is the technology responsible for placing sound around the room, matching the dialogue and sound effects with the action on the screen.

Together, these two technologies allow Yamaha to offer a complete line of home theater components that outperform other comparatively priced products on the market.

Stop by your local Yamaha dealer for what could be a very eerie demonstration. Maybe we can't talk you into a system, but that doesn't mean we can't scare you into one. For the sales location nearest you, call 18:00-4YAMAHA.

Yamaha°



Many high-end processors can function as full A/V preamps. handling audio

and video

switching.



AudioSource's SS Five add-on surround-sound processor (\$350) uses a highly regarded Bolby Pro Logic decoding this from Analog Devices. It has a subwoofer line output and three 24-watt amplifiers for driving the center and surround speakers.



The HC-808 surround-sound processor from Counterpoint (\$1,295) also uses an Analog Devices Dolby Pro Logic decoding chip along with other high-quality passive circuit components. It features a pair of stereo subwoofer outputs.



shown alop a Carver AV-405 five-channel power amplifier (\$750), handles seven audio inputs and four video inputs.

Carver's CT-27V

line between preamp-processor and outboard component. They can function as full-system A/V preamplifiers, handling both audio and video source selection and signal routing, or they can be patched into an existing system between preamp and power amps or in a tape or processor loop. While the last approach can create a somewhat complex arrangement, it lets you return the system to its "pure" stereo condition simply by disengaging the tape-monitor or processor switch.

Speaking of A/V preamplifiers, they represent an attractive option whether you're adding surround capability to a separates-oriented audio system or assembling an A/V separates system from scratch. In addition to providing A/V switching and surround processing for both movies and music, a stateof-the-art A/V preamp is likely to deliver substantial gains in convenience. flexibility, and overall performance compared with a conventional stereo preamp. True A/V preamps (those with onboard surround processing) are available from Sony, Denon, Carver, Soundstream, NAD, McIntosh, and others. Prices usually range between \$700 and \$1,200, although a few mod-

els cost upwards of \$2,500. If you want to bring AM/FM radio into the fold, A/V tuner/preamps are available from Adcom, McIntosh, Carver, Kenwood, Marantz, and others at prices ranging from \$600 to more than \$3,000. The Kenwood KC-X1 (\$1,000), McIntosh MX130 (\$4,025), and Marantz AV-600THX (\$1,200) take things to the next level by incorporating Home THX circuitry. (Continued, page 78)



- VIDEO MAGAZINE, January, 1994

"Deep bass without the aid of big, expensive amplifiers.
Sounds panned from side to side as smoothly
as their corresponding images flew across the screen."
-50UND&IMAGE. Summer. 1993

"We quickly discovered what a difference the right sound system can make! The subwoofers added tremendous excitement to the movie watching experience."

-POPULAR ELECTRONICS, January, 1993°

"Cerwin-Vega produces a powerful and taut sound.
The impact can be especially felt in the midrange, which will
pound you with rotor blade sweeps from Apocalypse Now."

-SATILLIE ORBIT, June, 1993



CERWIN-VEGA **SENSURROUND!** HOME THEATER TURN IT UP: CRICLENO, 46 ON READER BERVICE CARD

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The Adcom GSP-560 surround-sound processor/amplifier (\$600) combines Dollay Pro Logic decoding with the three additional amplifier channels (center and surround) that you need to change a traditional stereo system into a home theater.



#### Looking Ahead

Finally, another argument in favor of the separates approach to surround sound is adaptability to future formats-like the all-digital "5.1-channel" Dolby Surround Digital (DSD) system now used in a number of motion-picture soundtracks. The DSD system provides six discrete audio channels, including a bass-only one for a subwoofer (hence the ".1"). Dolby Surround Digital has already been chosen for the U.S. HDTV system and will probably be incorporated into laserdiscs next year. A/V receivers and amplifiers that do not provide a separate line-level preamp-out/main-in loop for the left, center, right, and each surround speaker-currently the maiority-will not work with a discretechannel surround system. A separates system, on the other hand, could be upgraded by simply replacing the surround processor (or modifying it, as in the case of Madrigal's Proceed PAV), thereby protecting your investment in power amplifiers as well as basic pre-

amp and tuner components. That's not to say A/V receivers are a bad investment. On the contrary, they remain perhaps the best value in the history of audio. And at least one A/V receiver (Onkyo's THX-equipped TX-SV919THX) already has a special connector for an outboard discretechannel digital decoder, which some believe could be available as early as next year. So, you see, even in this age of home theater, separate components are alive and well.



Madrigal's handsome Proceed PAV A/V preamplifier (\$4,200), with Home THX processing as well as Dolby Pro Logic decoding, provides switching for as many as ten different sources and multizone outputs. On-screen menus simplify operation.



Marantz's AV-600THX A/V tuner/greamp (\$1,200) features full Home THX processing circuitry, Dolby Pro Logic decoding using a digital delay line, and a thirty-station memory in its AM/FM section.



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The Wave\* radio is designed for convenience as well as great sound. There's a handy remote control, pre-set buttons for your favorite stations, and many other features. You can even connect it to a portable CD or cassette player to enjoy your favorite music. Don't look for the Wave' radio in stores; it's available directly from Bose. Simply call the tollfree number or send the coupon below to receive a complete information kit or to try out the Wave' radio in your home for fourteen days, satisfaction guaranteed. Otherwise, just return it for a full refund of the purchase price.

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## AUDIOPHILE A/V

f you walked into the Sounding Board in Ridgewood, New Jersey, looking to spend about \$5,000 on a no-frills audiophile-quality music system with home theater potential, manager Scott Burghart would recommend this simple yet elegant setup: an Arcam Alpha 5 CD player and Delta 110S preamplifier, a Bryston Model 3B NRB high-current power amplifier, and a pair of Magnepan's new Magneplanar MG 2.7/QR dipole speakers. Besides being able to reproduce all kinds of music faithfully, Burghart says, the lineup sets the stage for an excellent home theater system.

"It's the sound, not the video, that creates emotional impact," he explains, adding that the trademark open sound of the Magneplanars gives realism to both music and movies. Each speaker combines planar-magnetic bass and midrange elements with a quasi-ribbon tweeter in a 6-foot-tall panel that's 22 inches wide and only 11/4 inches deep. The Maggies can present difficult impedance loads, but the Bryston amp is rated to deliver 200 watts per channel into 4 ohms, Burghart notes, and it's covered by an extraordinary twenty-year warranty.

For control, he likes the versatility of Arcam's Delta 110S preamp, which has four line-level inputs, a switchable moving-magnet/moving-coil phono input, two tape outputs, and a fullfunction remote control. For an extra \$500, the 110S can be converted into a digital preamp (the Delta 100, shown in photo) by installing an 18-bit digital-to-analog (D/A) converter board.

Completing the system is Arcam's Alpha 5 CD player, which Burghart says appeals even to "audiophile snobs who still prefer LP's," The player has an uncluttered front panel with a defeatable display, three search speeds, twenty-track programming, and a remote control. The final price for the music ensemble: \$5,394 plus tax.

Burghart's proposed home theater expansion can be implemented in two steps and assumes that the proud owner of the new audio system already has a decent TV and a hi-fi VCR. The first step of the expansion requires an investment of \$2,398 and calls for adding surround and center-channel speakers, a second amplifier to power them. and a surround-sound processor.

To match the brawn of the Bryston amplifier. Burghart recommends Adcom's "cost-effective" GFA-2535 fourchannel amplifier, which is rated to deliver 60 watts per channel into 8 ohms. The plan is to bridge two of its channels, sending 200 watts to the center speaker, and use the remaining two channels to power the surrounds.

For surround speakers, Burghart chooses a pair of British-made twoway Ruark Swordsman Plus II's for their musical accuracy and attractive appearance. "There's more sound coming out of the surround speakers than people realize," he says, "and the Ruarks are able to handle surroundchannel information without distorting." What's more, the 143/4-inch-tall speakers are available in walnut, mahogany, or black-ash veneer to match the room decor

#### HOME THEATER he Sounding Board, Ridgewood, New Jerse

Arcam Alpha 5 CD player (\$899) Arcam Delta 110S preamp (\$1,100) Bryston Model 38 NRB power amp (\$1,395) Magnegan MG-2,7/QR speakers (\$2,000 a pair)

and Sound (\$2.46 Fosgate Model Five processor (\$599) Adcom GFA-2535 power amplifier (\$600) Mirage MC-si center speaker (\$500) **Ruark Swordsman** 

Plus II speakers (\$899 a pair)

3. Home Theater (\$2,750) Denon LA-3500 combi-player (\$2,000) Energy AS-180 powered subwoofer (\$750)

Center-channel chores would be handled by Mirage's two-way MC-si. Designed for placement above or below a TV, the 19-inch-wide speaker is magnetically shielded and rated down to 45 Hz. More important, Burghart says, it has a "tone" switch on its back panel to help bring its tonal quality in line with that of the Magneplanars.

The final addition in this step is Fosgate Audionics' Model Five surroundsound processor, featuring five surround modes including Dolby Pro Logic. "There's accurate spatial placement with the Fosgate," Burghart says. "It gives you a good sense of what the engineers were trying to do when they recorded the soundtrack."

A home theater with this much clout just wouldn't be complete without good low bass, which is why Step 3 adds Energy's "highly reliable" AS-180 powered subwoofer. Rated down to 25 Hz, this workhorse boasts a 12inch driver, an adjustable two-way crossover, and a built-in amplifier rated to deliver 180 watts continuous or 720 watts peak! The subwoofer also sports a video setting that engages a 45-Hz boost, which adds "more woomph" to movie soundtracks, Burghart says.

Finally, to achieve the best audio and video quality possible, Burghart recommends Denon's LA-3500 combi-player for laserdiscs and CD's. In addition to an "excellent audio section," the \$2,000 player uses digital processing for luminance/chrominance separation, time-base correction, and field-noise reduction, all translating into crisp, sharp video images.

In the end, Burghart's total package is far from cheap at \$10,492, but in return he promises a no-compromise home theater. "My customers spend a lot of time and money putting together superb-sounding stereo systems," Burghart says, "so when they add home theater we're looking for a balanced system that delivers great spatial imaging and dynamic sound effects. This system is awesome."

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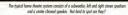
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## SIGNALS FROM THE SKY



#### DBS-Direct Broadcast Satellitecould change the way you watch TV (and listen to music).

ntil very recently, satellite TV in this country meant a big dish—7 to 10 feet or more wide—and a fairly big budget. But that situation began to change, dramatically, last December with the launch of the first high-power communications satellite designed specifically for small-dish reception in the continental United States. By the end of this year, it and a recently launched companion satellite will be providing coast-to-coast DBS (Direct Broad-cast Satellite) coverage with as many as 170 channels of high-quality digital television, including most major cable channels, spe-

cial-interest programming, and pay-per-view sports and movies. There will even be an audio-only digital music service.

The satellites were built by GM Hughes Electronics, which will supply the bulk of the programming through its DirecTV division. The other programmer is USSB, a subsidiary of Hubbard Broadcasting. Thomson Consumer Electronics developed the digital compression technology used in the system, add is the initial producer of the reception equipment—dishes and receivers—which it is selling under its RCA brand.

BY RICHARD R. PETER SON AND MICHAEL RIGGS

#### The Technology

The heart of DSS is a digital data compression system based on the MPEG (Motion Picture Experts Group) standard. Signals not already in digital form when they reach an uplink facility, which feeds programming to the satellites for relay back to earth, are first converted from analog to digital. Although these digital signals could be transmitted as is, efficiency would be poor and the number of channels the satellites could support would be much smaller. MPEG intelligently reduces the amount of data in each signal according to psychovisual and psychoacoustic principles. For audio signals, the principle is masking: A low-level component can be discarded without altering the sound if it is near enough in frequency to a higher-level sound. Such masking, or drowning out, of one sound by another is the same phenomenon that is used to re-

duce data-storage requirements in MiniDisc and DCC (DCC, in fact, uses a version of MPEG coding

called PASC). For video signals, the principle is redundancy: If portions of the picture don't change from one frame to the next, there's no need to send new data for those areas until they do change. That may sound like an obvious and easy strategy, but it is not a simple thing to pull off without visible artifacts, particularly in scenes containing relatively small, fast-moving objects. Consequently, the amount of video compression that can be applied depends on the characteristics of the program. Sports, such as basketball, tend to be the most difficult and thus require the highest data rates for good performance. Movies, which have a lower frame rate than video, and relatively static programs, such as soap operas, can usually get by with lower data rates. Juggling data rates and programming to achieve maximum channel capacity without sacrificing picture quality may be one of the hardest jobs facing DirecTV and USSB.

At present, both audio and video are being subjected to MPEG-1 compression, but it is expected that by the end



Pictures from France! Well, from outer space, actually, courtesy of the DSS satellite dish (background) and sel-top receiver.

of the year video processing will be moved over to MPEG-2, enabling full channel utilization. Apart from the increase in available programming, the change will not be obvious to users. since the receiving equipment is already compatible with MPEG-2. The signals delivered by DSS are capable of rivaling laserdiscs in video quality and CD's in sound, though it remains to be seen how consistently such performance will be maintained in the face of the temptation to increase programming capacity at the expense of data rate. Fortunately, the encoding can be improved over time without requiring changes to the receivers in users' homes, enabling some increase in quality, channel capacity, or both.

Signals originate from two entirely new, state-of-the-art, all-digital facilities. The USSB uplink site is close to Hubbard Broadcasting's headquarters in St. Paul, Minnesota. DirecTV claims that its Castle Rock, Colorado, broadcast center is the most sophisticated ever built, capable of transmiting 216 channels simultaneously.

The satellites themselves are twoton behemoths, each with sixteen 120watt transponders that operate in what is known as the Ku-band (around 12 GHz). Each transponder is capable of transmitting 23 megabis per second of usable information. That works out to four to eight compression. The satellites are in geosynchronous orbit at 101°W longitude, which is considered the most desirable of the positions available for DBS use in this country.

#### The Programming

So what is all this fancy hardware being used for? The combined DirecTV/USSB programming breakdown goes something like this: thirty channels devoted to major cable services (HBO, USA, CNN, and the like), thirty channels of sports, thirty channels of special-interest programming, and fifty channels of payper-view (PPV) movies. In addition. DirecTV is providing Music Choice, a thirty-channel all-music service from Digital Cable Radio (DCR). The DirecTV and USSB lineups are complementary rather than competitive, and

it seems likely that most users will subscribe to both. USSB is even planning some completely advertiser-supported channels that will be free to anyone who has the DSS re-

ceiving equipment.

Programming is sold primarily in packages of services at monthly rates competitive with those for cable TV. But some services will be available individually, and there will be quite a bit of pay-per-view programming, of sports and other special events as well as movies. These can be ordered using an on-screen program guide and the system's remote control. DirecTV says it will start showings of some hit movies at 30-minute intervals, making it easy for you to fit viewing to your schedule rather than the other way around. DirecTV is pricing pay-perview movies at \$2.99 each. DSS's large channel capacity also offers great opportunity for programming targeted at specific groups of people. Already DirecTV is offering TV Asia, which carries Asian programming from the Indian subcontinent, and the Physicians Television Network (PTN), which carries medical information and

educational programming.

To navigate that sea of programming, DSS provides a menu-driven

guide that enables the user to scan through program listings or to select listings based on categories, such as movies or sports. Once into such a category, you can select from submenus, such as football, golf, or whatever, until you've homed in on exactly the kind of programs you're looking for Then you can select the one you want by pointing and clicking with the remote. The system also enables you to set password-protected spending and rating limits and to lock out specific

One category not normally available on the system is major broadcast-network programming (CBS, NBC, and so forth). DirecTV does offer a package of network stations, but only to users who are outside the reception areas of network affiliates. Otherwise, you're going to need an antenna or cable to pick up your local network stations, as well as any local independents you want to watch. The DSS receiver enables easy switching between local and satellite channels from the remote control.

#### The Equipment

channels

Picking up DSS programming requires an 18-inch dish installed with an unobstructed line of sight to the satellites and a set-top receiver that selects and decodes signals from the antenna and sends them to your television. For the first eighteen months or one million units, whichever comes first, Thomson (RCA) has the exclusive right to sell DSS reception equipment. For six months after that, Thomson will share exclusivity with Sony, the second licensee, and after that other manufacturers will be allowed to enter the market

Thomson is selling three packages:

the RCA DS1120RW basic DSS system (\$699), the DS2430RW deluxe system (\$899), and the DRD102RW receiver (\$649), which can used in conjunction with the deluxe system to connect a second TV set to the dish. The basic system includes a dish, a receiver, and a remote control. On the receiver are S-video, composite-video, stereo audio, and RF output connectors, satellite and regular antenna inputs, and a wideband data port for pass-through of HDTV signals. The deluxe system increases the number of outputs on the dish to two, in order to facilitate multiple TV hookups, adds to the receiver a second compositevideo output, a second set of audio

#### SATELLITE ALTERNATIVES

DSS was not the first source of satellite TV, and it probably will not be the last. Several other orbital positions are open for highpower DBS, and the FCC has licensed a number of companies to use them. Whether the new services that result will be compatible with the DSS receiving equipment is yet to be seen, although DSS's strong

start seems likely to encourage development in that direction. In addition, there is one competing DBS system already in operation: PrimeStar. It offers only sixty-five channels, however, and because it operates from a medium-power satellite, it requires a dish roughly twice the size of DSS's

How PrimeStar will fare against DSS is open to question, but traditional big-dish C-band satellite receiving systems will probably continue to sell, though perhaps in reduced numbers. For enthusiasts prepared to devote the real estate and foot the bill. C-band provides outstanding quality and great

outputs, and a low-speed data port

(for nonvideo information), and in-

cludes a universal remote control. The

DRD102RW receiver is the same one

included in the basic system. The

prices for the DSS receiving equip-

ment may seem steep at first glance,

but there's quite a bit of cutting-edge

technology packed into those boxes.

And some dealers are offering financ-

ing plans that result in total monthly

payments for both hardware and pro-

gramming that are not out of line with

what one might expect to pay for ca-

ble-TV service, for example-as low

professional installation for most peo-

ple, the equipment is designed to be

simple to install, and kits and acces-

sories are available to ease the process.

Correct angle of elevation for the dish

can be determined automatically from your zip code, and the dish emits an

audible signal-strength tone to help

you get it aimed perfectly.

Although Thomson recommends

as \$20 or \$30 a month.

programming diversity. In fact, the DBS services. like cable operators and network affiliates, take much of their programming from C-band satellite transmissions, which exist to provide such distribution.

-Michael Riggs



#### The Future

As sales increase and more manufacturers enter the DSS market, prices for the reception equipment are likely to fall. One might also expect to see receivers built into TV sets once the market gets large enough. Thomson has said it will introduce such products when it thinks the time is right.

One of the most exciting aspects of DSS is its flexibility. It is not limited to standard NTSC television. Right now, it would be possible to send widescreen programs compatible with existing 16:9 aspect-ratio sets, and that seems very likely to happen. When HDTV is ready, it will probably come first via satellite. Indeed, given the apparent reluctance of broadcasters to embrace HDTV. DSS and services like it could be the primary source of HDTV programming for quite some time after it's introduced.

Richard R. Peterson is president of The DBS Connection, Maplewood, MN.

## CARVER RESEARCH LIGHTSTAR REFERENCE POWER AMPLIFIER

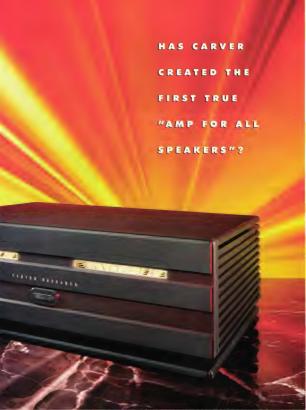
ome fourteen years ago, Carver developed something called a "Magnetic Field" amplifier, a revolutionary change from conventional power-amplifier design. It was small (a cube less than 7 inches on a side), weighed only a few pounds, delivered 200 watts per channel into 8-ohm loads, and sold for \$349. Over the years, other Curver amplifiers have employed the same principles, some of which were adopted in various forms by other manufactures.

Basically, the Carver Magnetic Field amplifier had a signal-sensing power supply that rapidly increased the supply voltage to the amplifier circuits to accumdate signal peaks exceeding normal listening requirements. The design enabled a relatively low-power amplifier (and power supply) to handle high-level program peaks without distortion. Only a couple of steps of voltage increase were practical at the time of the original Carver M-400 amp, but they were sufficient for it and its successors to provide the essential performance of a heavy, expensive power amnolifier in a much more economical fashion.

Over the years technology has advanced, especially in digital circuits and devices, and Carver Research (a division of Carver Corporation) has been working for some time on a wastly improved amplifier carrying the basic concept of the original Magnetic Field amps to its ultimate potential. The Carver Research Lightstar Reference amplifier, as the first commercial product using the new technology is called, invites (actually, demands) superlatives. It is very large and heavy, and correspondingly expensive, with a list price of \$3.500. It is also probably the first true voltage-source amplifier to reach the hir-finarket, certainly the first one 1 have seen or heard of. I suspect it will not be the last.

The Lightstar develops most of the required output voltage in its power supply,

BY JULIAN HIRSCH





which is built around what the company calls a Digital Transformer, and the role of the output devices is merely to funnel the necessary current to the load. Although the power-supply (signal) voltage can be as high as ±170 volts, the output stage uses only two devices, operating in Class A, and the amplifier has no global negative feedback or conventional gain stages in its signal path.

here are many other distinct differences between the Lightstar and ordinary amplifiers, some of which are explained more fully in "The Lightstar Advantage" (box). And for those seeking an in-depth exposition, Carver Research has a white paper on the design of this remarkable amplifier.

Basically, the most unusual operating feature of the Lightstar is that it is a virtually ideal voltage source with commons power capabilities. The mornous power capabilities. The story: The Lightstar is rated to deliver 300 watts into 8 ohms, 600 watts into 4 ohms, and 1,200 watts into 2 ohms, from 10 Hz to 20 MzL, with less than 0.2 percent total harmonic distortion (THD). It can also safely drive even ohm or less), although its performance is not rated or specified below 2 ohms.

The Lightstar's physical appearance is as novel as its electrical characteristics. All black, it is made of thick (%-inch) aluminum and measures 19 inches wide, 7 inches high, and 17% inches deep. It weighs 72 pounds. The sculptured front panel has two illuminated level meters and an oval touch plate standby on/off switch. The amplifier remains on in standby mode, but with reduced power consumption.

The Lightstar is actually a dualmono amplifier. Not only are the two channels entirely separate from each other, both physically and electrically, but they even have separate heavy-district of the property of th

The speaker connectors are goldplated binding posts usable with single or dual banana plugs, lugs, or stripped

#### MEASUREMENTS

Output at clipping (1 kHz)	
8 ohms	331 watt
4 ohms	650 watt
2 ohms	1,300 watt
Clipping headroom (re rated	output)
8 ohms	0.43 dE
4 ohms	0.35 dE
2 ohms	0.35 dE
Dynamic power	
8 ohms	315 watt
4 ohms	612 watt
2 ohms	1,223 watt
Dynamic headroom (re rated	output)
8 ohms	0.21 dž
4 ohms	
2 ohms	
Distortion at rated output	0.0459
Sensitivity (1 watt into 8 ohms	)
Standard	100 m\
High	
Noise (A-weighted, re 1-watt or	
Standard	
High	
Frequency response	
20 Hz to 20 kHz +4	0.40.1 di

wire. There are two pairs of outputs for each channel, providing added versatility when driving a multiple-speaker array or when biwiring speakers.

The Lightstar is protected against shorted outputs by a muting circuit, which operates when it is driven hard into an impedance of 0.5 ohm or less. The magnetic circuit breakers in the power-cord inputs are each designed to trip if the power consumption in that channel substantially exceeds its rated maximum value of 1,440 watts. The two channels together can draw between 2,000 and 3,000 watts in fullpower operation, so the power cords should be plugged into outlets with a suitable rating-and never through an extension cord! Since the Lightstar's Digital Transformer has the potential to generate radio-frequency interference (RFI), the amplifier is tightly shielded by its cabinet and has RFI filters in its line and speaker circuits.

Because the Lightstar can consume

so much line current, we drove only one channel at a time for high-power tests (both channels were driven for certain low-level measurements). The amplifier easily met its specifications. impressive as they are. Frequency response was better than ±0.1 dB from 20 Hz to 10 kHz, rising to +0.4 dB at 20 kHz. A wide-range measurement from 10 Hz to 200 kHz (the limits of our Audio Precision System One test equipment) showed a response of +0.4. -0.2 dB from 10 Hz to 20 kHz: the response dipped to -1.1 dB at 60 kHz, rising again to +1.5 dB at 130 kHz before falling to below -2 dB at 200 kHz. These small (and insignificant) variations may have been due to the RFI filtering or to special aspects of the power supply.

Power output was, to put it middly prodigious (see "Measurements"), As would be expected from an ideal vollage source, the Lightstar's dynamic power output was virtually identical to sts steady-state clipping-level pool to It suspect that they were actually the same, but the dynamic measurement (reading the display from an oscilloscope and calculating the power) is in-herently less accurate than a metered steady-state measurement.

The Lightstar's cabinet became extremely hot during the high-power tests. The top and side surfaces were too hot to touch for more than a second or two, although the front panel remained comfortable to the touch. After all, the top, bottom, and sides of the Lightstar are, in effect, the heat



#### Q-SERIES



In fact, the most acoustically correct location for the tweeter is precisely at the center of the worlder. This strategic placement creates a single sound source, allowing high and low frequencies to reach your ears at the proper time, regardless of where the speakers are placed or where you are sitting, (No wonder KEFs patiented Uni-O'' is the technology of choice for advanced Home Theater applications.)

Perhaps the greatest benefit of the KEF Q Series speakers is that they sound as good in your home as they do in the showroom.



#### THE LIGHTSTAR ADVANTAGE

igh-fidelity audio amplifiers are normally designed to approximate what is known as a constant-voltage amplifier. The idea is that for any given input voltage, the amplifier should deliver a certain output voltage determined by its gain, regardless of the lead it is driving. Practical amplifiers. have never achieved that ideal, however, and most fall well short of it because of the severe demands placed on conventional output stages and power supplies when driving low-impedance or highly

reactive loudspeakers. In a conventional amplifier, the power supply is "dumb." It sits there collecting current from the power line like a tank collecting water from a pipe. The output transistors are like nozzies at the end of a hose attached to the tank. There is a more or less constant pressure from the water backed up in the tank that forces water out of the nozzle when it is opened up. Similarly, as an output transistor switches on in response to the signal voltage, it allows current to flow out of the power supply in proportion to the power-supply voltage and the impedance presented by the speaker (the lower the impedance, the more current is delivered). At any level short of

maximum output, the output transistors are actually working to keep the power supply from delivering as much current to the speakers as it would like to. This relationship between voltage, current, and impedance holds up until the impedance becomes so low that the power supply can no longer maintain full voltage or the amount of current flowing through the transistors exceeds their safe-operating limit. So instead of the amplifier's maximum continuous power doubling every time the impedance of the load is halved. as would happen if it were a perfect voltage source, the power usually increases at only about half that rate until some limit is reached that sharply restricts the total output (in most amplifiers this condition arises when the load impedance gets down around 2 or 3 ohms).

The Lightstar solution is to use a "smart" tracking power supply. Instead of operating the output transistors at a fixed high voltage, the power supply in the Lightstar amplifier continuously scales its voltage to that of the input signal. Consequently, at any given time essentially all of the voltage developed by the supply is actually pushing current through the single pair of output transistors into the loudspeakers. Because

the output transistors themselves then operate at a relatively low voltage, they can handle much more current than would be possible for transistors operating at a high voltage. As a result, Carver Research says, the Lightstar amplifier can drive an impedance of even a fraction of an ohm up to the limits imposed by the power available from the wall socket.

The other really neat thing about the Lightster design is how it handles the problem of "back EMF"—the energy kicked back from the loudspeaker to the amplifier by the reactive component of its impedance. Conventional output stages have to dissipate that energy somehow, eating up some of their output transistors' current capacity and thereby further restricting their ability to deliver power to the speakers. That is why you may sometimes hear of a particular speaker being difficult to drive because it has a highly reactive impedance. instead of trying to lend off the return current, the Lightstar amplifier actually recycles it into the power supply. The end result. Carver says, is a unique achievement: an amplifier that simply doesn't care what sort of load it is attached to. Our tests tend to support that remarkable claim.

-Michael Biggs

sinks for the most powerful amplifier most of us will ever see and touch, and a miniaturized watt has yet to appear on the scene

Harmonic distortion at 300 watts into 8 ohms was about 0.05 percent from 100 Hz to 5 kHz, reaching 0.1 percent at 20 Hz and about 1 percent at 20 kHz. At 1 kHz the distortion was less than 0.1 percent from 5 watts to about 320 watts into 8 ohms. All of these readings were of total harmonic distortion plus noise (THD+N), A spectrum analysis (excluding noise) of the harmonics in the audio range showed a few components reaching as high as 0.01 percent and others typically around 0.001 percent or so.

Given the Lightstar's measured performance, one would not expect it to contribute any sound of its own in normal listening, and that was certainly our experience. Sonically, it was utterly neutral and transparent. On the other hand, we were not willing to place the speakers in ieopardy by using more than a tiny fraction of this amplifier's power reserve. Carver Research recommends (and we heartily concur) that the speakers be protected by external fuses of the value suggested by the speaker manufacturer.

uring our listening tests, we left the Lightstar energized, in its standby condition, so that it could be activated at a finger touch (and because it was not practical to reach behind it to turn the two mono amplifiers on and off). Although the standby mode of operation is undeniably convenient, we suspect that it could run up a sizable electric bill in time. The amplifier's top, after 24 hours in standby, was fairly warm to the touch and became slightly warmer during use at normal listening levels (averaging less than 1 watt).

Based on our experience with the Lightstar, we recommend it highly for driving difficult speaker loads, particularly ones in which the impedance dips to 2 ohms or less. On the other hand, even if you use only a minute fraction of its capability, the Lightstar Reference is probably the most advanced power amplifier you can buy, and I doubt that any speaker has yet been made that it cannot drive with ease.

If its drawbacks (weight, power consumption, size, and so forth) are discouraging to consider, be patient. We understand that Carver Research is planning other, more affordable Light-

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Peter Tribeman





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### THE MATING GANIE

Getting your components to work properly with each other is both important and, usually, easy.



lthough few people would dispute that component hi-fi is the way to go for really topnotch sound, some still shy away from it out of fear that they will wind up with a bunch of equipment that doesn't work well together-a not altogether unreasonable concern. On the other hand, serious incompatibilities between modern components are very uncommon, and with a

little care even minor glitches can be avoided. Compatibility issues can be lumped roughly into two categories: operational and sonic. Incompatibilities that affect sound quality would include things like the inability of a particular amplifier to drive a certain loudspeaker to adequate levels without distortion or an additive accumulation of similar frequency-response errors through the various components in a system. Most audio components exhibit small response errors that, by themselves, are unimportant, But if two or three components in a system err in the same direction, their errors may add up to a significant total. This problem is much less common today than it was in the days when phonograph records were the primary music source, but it can still happen. Particularly bad, and good, combinations must be discovered by experiment, perhaps aided by a

BY PETER W. MITCHELL

good dealer. A dealer's expertise in identifying good component partnerships can be an important reason to pay retail prices rather than searching for the lowest mail-order prices.

In most cases, however, sonic differences arising from component interactions are rather small. If you care intensely about musical sound, you may decide that any difference you can hear is worth paying for. But the decision is yours alone. Sales clerks and published reviews may imply that a particular amplifier or connecting cable will make a dramatic, night-andday improvement in sound. But the audibility, or even the existence, of such differences often depends on the remainder of the system. Listen for yourself, and pay only for improvements that you hear.

perational incompatibilities, affecting the ability of the various components in a system to work together properly, are also possible, but thanks to the high level of standardization in the audio industry, they normally do not have sever consequences (product failure, loss of sound, or compromised likely to obtain reliable performance from any assortment of reputable components, although there may be some minor obstacles to circumvent in the process of hooking everything up.

#### **Line-Level Connections**

Except for those from phono cartridges or to loudspeakers, almost all connections between components in an audio system carry "line-level" signals and are relatively simple. They nearly always involve modest voltages (2 volts or less) and a very small amount of current (a ten-thousandth of an ampere). As a general rule, any audio output from one component can be connected to any audio input on another component. Since line-level audio connections usually employ RCA phono sockets and plugs, we can restate the rule as follows: Anything with RCA phono output jacks can be connected to anything else with RCA phono input jacks.

Most line-level connections are interchangeable. You can connect the audio outputs from a CD player to the CD, tuner, auxiliary, or tape-in jacks on an amplifier; the sound will be the same in each case. If you have no CD player, you can use your amplifier's CD input for the playback signal from



a spare tape deck or for the line-out audio signals from a VCR or laserdisc player. And with the aid of an adaptor cable you can feed the volume-controlled output signal from any headphone jack to the line input of a separate tape recorder or amplifier.

There are a few exceptions—certain connections that you should not make. Don't panic; plugging a cable into the wrong socket won't hurt anything. But the following connections would yield either poor sound or no sound:

Line to Phono. The small cylindrical socket that is used for most audio connections is known generically as and RCA phono jack, but input sockets that are specifically labeled Phono should be used only to connect a tuntable for playing LP records. If you connect anything else (such as a CD player or a tape recorder) to an amplifier's phono input, you will get bad sound: bass-heavy, dull, and very distorted.

distorted. Line Out to Tape Out. The connection labeled Tape Out on a mapfiler control of the Co

resulting impedance mismatch will impair the quality of the sound.

Digital to associate the sound.
Digital to associate the sounds plant and a control an

Video to audio. On VCR's and laserdisc players the line-out jacks include a video socket as well as the left and right audio signals. When you make connections to an A/V receiver or amplifier, be sure to connect the video signal to a video input. (Video sockets are usually color-coded yellow or orange to distinguish them from audio sockets, which may have red, white, or black inserts.) A few audio-only amplifiers have an input labeled Video that is intended only for video-related sound, such as the audio signal from a TV or VCR. If you connect a video signal to any audio input jack on your amplifier, you will hear a loud buzz when that input is selected, and the video signal's high-frequency energy may blow out your tweeters. (Contrariwise, if you connect an audio signal to a video input tack, no harm is done, but you'll get no picture.)

ith normal line-level connections, the principal compatibility issue concerns the output impedance of the signal source. This question arises because product-design engineers face conflicting goals. On the one hand, safety and reliability considerations impel designers to include a resistor at any output in order to limit the current if the output is short-circuited. (To prevent unwanted crosstalk, in many amplifiers the input selector automatically short-circuits each unselected input to ground. That insures that when you are enjoying a CD, you'll hear only the CD; the sound won't be contaminated by bleed-through from the tuner or other input signals.)

On the other hand, a current-limiting output resistor usually adds to a circuit's output impedance. That impedance interacts with the capacitance of the connecting cable, creating a





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You need three front speakers - left, right and center - to achieve realistic home theater. A stereo pair would place the dialog in the center (where it belongs) from only one listening position. You can't use conventional hi-fi speakers for the center channel, even shielded models, because their dispersion patterns prohibit raising them too high or laying them on their sides.

on laying them on their slues.

KEFS proprietary Uni-Q\*driver, which places its tweeter at the center of the woofer,

KEFS proprietary Uni-Q\*driver, which places its tweeter at the center of the woofer,

allowed KEFS engineers to create the ideal center channel speakers, the Models 100 and

be sear-sent allowed NET's engineers to Create the local center channels speakers, the Models for 09. Their uniform dispersion patterns let them be placed beaufulful above or below the screen, creating the impression that the sound is coming directly from the screen. Moreover, the Models 100 and 90 are both Reference Series, which not only ensures their quality and consistency; it permits their use as satellities and their seamless integration with other KET Reference and

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The Uni-O driver. One of a series of KEF scientific achievements dedicated to one goal: the most realistic performance in your home.



high-frequency rolloff. To keep the rolloff above the audio band, or, at worst, to minimize the loss at audible frequencies, any output impedance (from a CD player, tape deck, or an amplifier's tape-out or preamp-out iacks) ideally should be less than 1,000 ohms. If your CD player has a relatively high output impedance (greater than 2.000 ohms), you'll need to use a short connecting cable (or a special low-capacitance cable) to avoid rolling off the high audio frequencies. (For more about cables, see "Cables and Contamination" at the end of this article.)

#### The Cartridge/Preamp Interface

Record-playing systems vary much more in sound than do CD players. Moving-magnet phono cartridges have a high output impedance at high frequencies, so their treble response depends on the capacitance of the cable. And the pickup's high-frequency resonance is damped by the phono preamp's input impedance. Therefore, the sound of a phono cartridge can be fine-tuned by experimenting with the values of resistance and capacitance that "load" the cartridge.



"high-output" moving-coil phono cartridge has an output signal nearly

as strong as that of a moving-magnet design, but its low impedance makes it less sensitive to loading, Typically, however, moving-coil pickups have an output voltage so low that it is inadequate for a normal phono input. Such cartridges require a special high-gain preamplifier designed for very low circuit noise.

#### **Digital Connections** Most connections between audio

components involve analog signals, but digital connections are becoming more commonplace, particularly to convey the digital signal from a CD

WHAT, ME WORRY?

Compatibility is about components working well together, not about safety. The UL and CSA symbols on most electronic components show that they have passed independent tests proving that they are electrically safe-even when abused or misused. If you plug a cable into the wrong socket you may get no sound, but you are very unlikely to burt anything in the process.

In most cases, you simply cannot damage a modern electronic component by connecting it wrong. The sole exception is speaker wiring: If positive and negative speaker wires (from an amplifier's plus, or red, and minus, or black, output terminals, respectively) touch each other while music is playing, the resulting short circuit could blow a fuse in the amplifier. With many designs even that won't happen: the amplifier's protection circuits will simply shut off the sound until the short-circuit is removed. To be on the safe side, turn off the power until you have finished connecting the speaker wires and have inspected the installation to make sure that no loose or fraved strands of wire are touching an adjacent terminal or the metal chassis.

fier produces 40 watts, do not connect the two channels together hooing to get 80 watts. The two channels of a stereo amplifier are electrically separate and must always remain so! Short-circuiting their outputs together is an efficient way to create repair bills. A few amplifiers contain special circuits that enable two channels to be "bridged" for higher power, but don't try it if the owner's manual doesn't describe that option.

In any case, you should always observe a few basic precautions:

1. Don't remove the top cover or bottom panel of any AC-powered product. There

may be dangerous voltages inside. 2. Don't allow ventilation slots to be covered or obstructed. Don't put papers or clothing on the top, and don't allow a beavy

amplifier or receiver to sink into a carpet. 3. To avoid unpleasant surprises, turn the volume control all the way down when connecting or disconnecting anything.

Better yet, switch off the power, or unplug your amplifier's AC power cord. 4. When in doubt, don't be impatient: take a break and read the owner's manual.

-P.W.M.

player to an external digital-to-analog (D/A) converter or to a digital recorder. Three types of connection are available, but usually only one or two types are found on any given product. Your choice will necessarily depend on the connectors that you find on your equipment.

A coaxial digital interface employs RCA phono jacks and the same technology as the line-level video output from a VCR or laserdisc player. Outputs and inputs both have a 75-ohm impedance, which matches the characteristic impedance of the coaxial cable used to link them. When correctly implemented, a coaxial digital connection can provide superb performance. but there are ways in which difficulties can arise.

Because three-wire balanced cables are not used for digital connections in consumer equipment, the cable can pick up hum from the power line. A digital output is supposed to employ an isolation transformer that would keep power-line leakage out of the signal, but many CD players omit the transformer to reduce cost. And many players don't maintain a true 75-ohm impedance across the wide frequency range of the digital signal. As a result, differences in cable impedance can impair data transmission to an extent that, in extreme cases, might affect the sound. (In principle, any cable that does a good job with video signals should also handle digital signals successfully.) Coaxial cables can also convey power-line hum and RFI (radio-frequency interference, picked up from the digital equipment itself) to the analog audio circuits in connected equipment, though usually at inconse-

quential levels. The Toslink connection is a compact, low-cost interface for use with plastic-fiber optical cables. Its principal advantage is that the connection involves a pulsed light beam rather than electrical wiring and therefore can't pick up (or carry) hum or RFI. Electrical impedance matching is also irrelevant to this type of connection, since no electrical signals are involved. Vibration of the plastic cable can increase the timing jitter in the digital signal, which could slightly increase distortion during D/A conversion. Distortion would have to go up quite a bit to become audible, however.

The least common, most costly, but perhaps best digital interface is the AT&T ST connection for glass-fiber optical cable. Very few components

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have ST connectors, however, and coaxial or Toslink hook-ups should normally be adequate for consumer audio systems.

#### Physical Interfaces

Some compatibility problems are quite basic in nature. For example, if you discover that you must exert substantial force to insert a phono plug into its socket, the center pin of the plug may actually be slightly oversize. It will make a fine connection, but the insertion may stretch the interior of the socket. The same plug will continue to fit well in the future, but if you ever insert an ordinary plug in the stretched socket, it may fit loosely and make the connection unreliable. So if a plug doesn't seem to want to go into a socket, your best bet is not to force it.

#### **Amplifiers and Speakers**

There is much more to be said about the complex interaction between amplifiers and loudspeakers than can be fit here. The essential consideration, however, is impedance. Reducing the impedance of the speakers connected to an amplifier will increase the amount of current, and thus power, they can draw from the amp-up to a point. As a practical matter, there is always some limit to the amount of current an amplifier can deliver, and in any conventional amplifier that limitation will determine the minimum impedance it can drive without misbehaving-overheating, distorting, shutting down, or, in extreme and unusual cases, burning out its output transistors. Any of those symptoms is an indication that you may have an amp/ speaker compatibility problem.

nfortunately, loudspeaker impedance ratings are. at best, only approximate, since the actual impedance usually varies substantially with frequency. Moreover, amplifiers and receivers now often carry excessively conservative warning labels (mostly to satisfy UL requirements) about the minimum impedance that should be connected to them. There are some speakers that present an unusually difficult load and that can be driven only by amplifiers designed for high-current output. They are the exceptions, however: Most loudspeakers will work with most of the amplifiers and receivers on the market. If you're in doubt, a good dealer should be able to steer you clear of problematic couplings.

#### CABLES AND CONTAMINATION

in the old days, the cables used to connect audio components were called "patch cords," and a free cable was packaged with every product. Nowadays audio dealers sell cables separately as well, as a premium accessory. Although many esoteric claims are made about cable design, the main benefit you can get by paying extra is superior constructionoxygen-free wire, connections that are soldered instead of molded-on. Tellon insulation ("dielectric") instead of cheaper plastic, strain reliefs to prevent the wire from breaking where it enters the plug, phono plugs that provide a snug fit in the socket, and so forth.

Most conventional interconnects are coaxial in form, to minimize the cable's tendency to act as an antenna, picking up hum and radio-frequency interference from the environment. Twisted-pair cables can work equally well in most environments and may provide lower capacitance, (Ideally, all cables would be labeled to indicate their capacitance, but many are not.)

Impedance-related electrical interactions may result in audible differences when cables are changed. but these are usually very minor and are often system-dependent, apparent in one system but not in another. That is particularly true for cables that have an arrow indicating a preferred direction of use. Electrons don't care whether they are traveling east or west in a wire. But an interconnect actually contains two conductive paths. The "hot" wire. connected to the center pin of the plug, carries the signal voltage from one component to another (CD player to amplifier, for example, or preamp to power amp). The "ground" wire, connected to the plug's skirt.

completes the circuit, provides the ground reference for the signal. and serves as the cable's shield against interference.

But in most audio components the chassis is not a true electrical ground. Electrical noise, entering from the AC power cord, can leak from the power transformer onto the chassis, and different products may have differing ground potentials. When a cable connects two products together, leakage current can flow along the ground wire, adding noise and possibly distortion to the audio. To avoid this effect, some audio cables leave the ground wire unconnected at one end. You'll have to experiment with such cables to discover whether reversing the direction makes any difference in your musical

Directional cables are just one way to deal with power-line leakage. A second tactic is to use a voltmeter to measure the leakage voltage on each chassis, experiment with the orientation of each AC plug in its socket, and then mark the plug orientation that produces the lowest chassis voltage. A third method is to buy a

power-line filter to clean up your AC. The ultimate cure for power-line noise and radio-frequency interference is to select audio components designed to work with "balanced" cables, Balanced connections eliminate interference by keeping the signal ground separate from the chassis ground. Each channel uses a three-wire connection: signal hot, signal ground, and a separate shield that may be connected to the chassis ground. Balanced inputs and outputs are used in professional audio setups (recording and broadcast studios) and in some audiophile components.

# AZZLING.

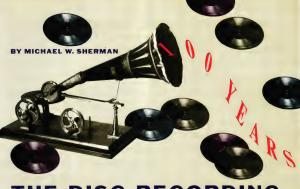
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# THE DISC RECORDING A CENTENNIAL APPRECIATION

NOVEMBER 1994 marks the centennial of the American disc record. One hundred years ago, the first commercial disc recordings made in America were placed on sale by the United States Gramophone Company. It was a Before 1900, most recorded sound was captured on a wax cylinder. About the size of an aluminum soda can, the fragile cylinder was sold beginning in 1889 by the North American Phonograph Company, a concern that pooled the patents of

modest beginning. Only about fifty records (or "plates," as they were called) were offered, primarily in the Washington-Baltimore area, and there was not even a practical machine to play the discs, but from this tiny seed would grow an industry that would dominate recorded entertainment for generations.

Thomas Edison with a rival group arising from the research of Chichester Bell and Charles Tainter. Most cylinders sold during the 1889-1894 period were employed in coin-operated phonographs in commercial "parlors," as the machines were still considered too expensive for home use. In addition, no method

for mass duplication of cylinders had been developed, and they had to be transcribed individually from originals made at the recording session. The procedure vielded both inconsistent results and an inadequate supply of records.

uring this period, the flat disc was under development by its inventor, Emile Berliner. Berliner had first demonstrated his disc at Philadelphia's Franklin Institute in 1888, but it was still experimental. Mass duplication was not yet possible because no satisfactory material for pressing records had been found. In addition, the grooves in the original master discs were etched using acid, which produced a loud but somewhat scratchy recording.

It was in Europe that Berliner's disc recordings were first sold to the public. In 1889, Kämmer and Reinhardt, a toy manufacturer in Germany, began producing and selling little 5-inch discs and a small hand-propelled device to play them called a "gramophone." It was sold throughout Germany and England, mainly as novelty entertainment for children. Today, few of those tiny discs remain. Since they were considered toys, most of them were

roughly played and then discarded. Berliner returned to the United States in late 1890 and set out to develop a disc record for serious commercial use. In April 1891, together with a small group of New York investors, he formed the American Gramophone Company, Berliner's laboratory and studio were located in Washington, D.C., and it was there that he began his recording efforts. There is little doubt that experimental recordings were made during 1890 and 1891, but it is unlikely that any of them were pressed and sold. A few cornet, piano, and clarinet recordings that date from 1892 were eventually released, and these are probably the earliest surviving American-made disc

List of Plates in Stock NOVEMBER 1st, 1894.

CORNET.

Call Me Thy Own

TROMBONE

75 In The Deep Cellan

PIANO.

256 Geisterfunken

700 Biddy Oates

DRUM AND FIFE.

CHILDRENS' SONGS.

752 Duett: Every Day will be Sunday Byc and Byc 753 Duett: I Know a Bank, Etc.

INDIAN SONGS.

51 Three Melodies from the Gost

52 Three Melodies from the Gost Dance

SOPRANO.

359 Oh, Promise Me

BAND MUSIC. 118 Dude's March 200 Polka, Elegant Black and 111 Marching Through (with cheers) 206 Emily Polka 202 U.S. Military Signals 111 The same-Patrol 2 La Serenata

115 Star Spangled Banner Salvation Army 9 Semper Fidelia (with drun 139 After the Ball 126 Bornecio March

Liberty Bell March 140 Washington Post March 142 Admirals Favorite March INSTRUMENTAL QUARTETTE.

807 Die Kapelle BARYTONE. 163 When Summer Comes Again Sweetheart Nell, and I

175 Old Kentucky Home Black Knight Templers Throw Him Down McClosi 183 Oh, Promise Me 176 Love Me Little, Love Me Long 150 Oh, Fair Art Thou

170 Mamie Come Kiss your Honey Boy Then You'll Remember Me 160 The Maiden and the Lamb

352 Oh. How Delightful 355 Star Soangled Banner 165 Red, White and Blue 169 The Coon That Got the Shake 157 Tramp, Tramp, Tramp

RECITATION. 602 Marc Anthony's Curse A Lesson in Electron VOCAL QUARTETTE. CLARIONET. 300 Allegro (Verili)

851 Blind Tom (negro shout) THE UNITED STATES GRAMOPHONE CO., 1410 Pennsylvania Ave., N. W.,

Washington, D. C. Between 25 and 50 New Pieces will be added every month.

The first catalog of the United States Gramophone Co. The discs ("plates") sold for 60¢ each, about half of what a cylinder recording cost at the time.

> Dissatisfied with the slow progress on the financial front. Berliner dissolved American Gramophone in 1893 and set up the United States Gramophone Company, which gave him greater personal control. It wasn't until the end of 1894 that the company offered the first fifty discs to the American public. They were thin, flexible discs made of celluloid, with an engraved label and handwritten titles. The artists were rarely mentioned; at this early stage, no performers of note were recording. The 7-inch-diameter discs sold for 60¢ each (about half of what a cylinder recording cost at the time) and were accompanied by a paper sleeve containing the lyrics of the

Ouite a variety of music was repre-

sented, including band pieces, vocal selections, instrumental solos, and even a recitation. Among the most interesting items on this first list are two series of melodies from the "Gost [sic] Dance" of the Indians, If any examples of these recordings survive, they are certainly historical artifacts of the greatest importance.

The discs themselves enioved many advantages over their cylindrical counterparts. They were virtually unbreakable, as opposed to the extremely fragile wax cylinder, which could easily be broken just in placing it on or removing it from the phonograph. They needed far less storage space; nearly fifty discs could be stacked in the space required by only five cylinders. They could be duplicated easily, and between 500 and 1,000 pressings could be produced from a single master recording. The early discs were also more consistent in quality than the cylinders, which had to be either an original recording or a copy recorded from an original, with the resultant loss in volume and fidelity. Finally, the discs were louder, even though they also produced a considerable

amount of surface noise. Despite those advantages, the disc did not immediately replace the cylinder as the format of choice for the early enthusiasts of recorded music. For one thing, the cylinder business had a five-year head start. Sales agents were in place, a supply of phonographs and cylinders was in the field, and thousands of people had listened to their favorite band music or popular songs on cylinders in the phonograph parlors. While hardly yet an institution, the cylinder was

America's image of recorded music. The cylinders' most important advantage over the discs, however, was the tremendous superiority of the machines available to play them. The cylinders were played on a device called the phonograph, while the discs were reproduced on a gramophone. The gramophone was a primitive de-

records.

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vice that relied on a handpowered crank to propel the turntable. Not only was a listener required to sit next to the machine and turn the crank while the record played, but the near impossibility of maintaining a constant rate of revolution caused annoying pitch fluctuations. In contrast, the phonograph of the early 1890's was electrically powered and featured a mechanical governor to maintain a constant rate of speed. By 1896, springpowered motors would be employed in both machines, but until then the disc gramophone would appear to be a mere novelty compared with the refined cylinder phonograph.

Because of a shortage of capital, a lack of promocion, and the crude nature of the gramophone, disc sales for the first two years were negligible. In early 1895, Berliner substituted a hard rubber material for the soft celluloid. The resulting pressings were thicker and more durable, but prone to bubbles that often caused the needle to jump out of the groove.

In late October of that year, after receiving muchneeded financing from a Philadelphia-based syndicate, William Jones formed the Berliner Gramophone Company. He opened a sales Philadelphia, but without a sp tor and a more promotional et

Company. He opened a sales office in Philadelphia, but without a spring motor and a major promotional effort, the disc was going nowhere fast. Fortunately for Berliner and his investors, both came the following year.

be task of designing and manufacturing an inexpensive and reliable spring motor fell to Eldridge R. Johnson, a machinist from Camden, New Jersey, Johnson quickly became intrigued with the gramophone, and after making improvments to the reproducer (stylas), he segan assembling entire machines in the produce of the segan assembling entire machines in segan assembling entire to "Improved Gramophone" finally provided Berliner with a viable product that could compte with the cylinder

BY 1900, DISC RECORDS

WERE STRONG

CYLINDERS.



A young girl beckons the public to listen to the gramophone in this 1901 advertisement. The spring-powered machine in the ad had already come a long way from Berliner's original.

machines sold by Edison and Columbia. It is, incidentally, this machine that is shown in Francis Barraud's famous painting of the fox terrier "Nipper" listening to "His Master's Voice."

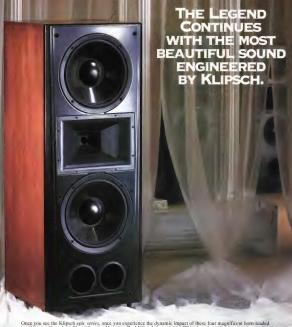
Marketing and promotion were assumed by Frank Seaman, a territorial sales agent for Berliner in New York. State. By mid-1896, Seaman was aming for national distribution with his formation of the National Gramophone Company. In the fall of 1896, the Berliner Gramophone Company whereby he would become the exclusive sales agent of machines and recordings for the entire United States outside hte Washington, D.C., area couside the Washington, D.C. area.

Seaman began advertising extensively in leading national publications for the Christmas season, and the sales of springpowered gramophones and disc records soared. The recorded repertory had expanded tremendously as well, and hundreds of different titles had become available for purchase.

uring the next three years, Berliner's difficulties would shift from those of developing a product to those of a legal nature. The rapidly expanding disc business was attracting competitors, and by 1898 both Berliner and the American Graphophone Company, makers of the Columbia cylinders and machines, were in litigation over the control of key natents, Further, Frank Seaman had grown dissatisfied with his supply arrangement with Berliner and Johnson He believed that he could manufacture an equivalent gramophone for far less than he was being charged, so he set up the Universal Talking Machine Company to build and sell the Zonophone. A torrent of lawsuits followed, and by mid-1900 Seaman had defeated Berliner in the courts, winning an injunction barring the inventor from selling gramophones in the United States.

The story then turns to Eldridge R. Johnson and his almost immediate formation of the Victor Talking Machine Company Johnson aggressively took on both Seaman and American Graphothoe in the courts, and won. In the ensuing quarter century, he would build the Victor organization into the largest would ast nearly one hundred years. D

Michael W. Sherman's book, The Collector's Guide to Victor Records, covers the history of Berliner and Victor records from 1894 to 1958 (available from Monarch Record Enterprises, 100 Highland Park Village, Dallas, TX 75205-2788 for \$24-95 plus \$2 for shipping and handling).



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year and a half ago, I was asked by Ted Anspacher, then director of exhibits for the New York Hall of Science, an interactive science museum on the grounds of the 1964 World's Fair in Queens, to help with the museum's new permanent exhibition, "SoundSensations-The Inside Story of Audio." Museum personnel designed and built the exhibit with major funding from the National Science Foundation and AT&T. My contribution was the harderthan-it-looks writing of the explanatory signage. I also donated various artifacts for an audio-history display (1), including an early open-reel analog tape, a promotional mockup of the first CD, a MiniDisc, and a Digital Compact Cassette.

The exhibit includes twenty ingenious displays highlighting various aspects of sound-reproduction technology. It starts with the most basic sound transmission chain, a speaking tube (8), and goes right through to advanced digital signal processing for reverb and sound transformation (5, 9). Along the way, kids of all ages can experiment with-to use grown-up terminology-real-time spectrum analysis of their voices (2) and nonlinear editing and composing techniques using a desktop computer (3), and they can learn about digital audio through an animated computer display (6).

One popular display gives hands-on experience with moving a tape head across magnetic tapes recorded at various speeds (4). It takes a steady hand-free of wow or flutter-to get anything intelligible out of the recordings. Another informative display allows visitors to independently switch on the three drivers in a three-way speaker to illustrate how the audio band is split for better reproduction (7).

The exhibit contains much more than can be covered here. but you can get a taste of it by calling 718-MY-WORDS (699-6737) for an over-the-phone experiment with digital transformation of your voice (the call is not toll-free, though, so don't get carried away). For more information about SoundSensations or the other fascinating exhibits at the New York Hall of Science, call 718-699-0005.















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## Freedy Johnston: Perfect World, Perfect Album?

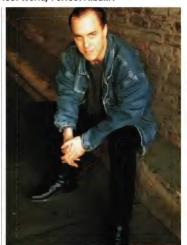
t was Elton John who sang Sad Songs Say So Much, but these days it's Freedy Johnston-a cult singer/songwriter making his mainstream movewho brings that alliterative title to life most vividly. On his new album, "This Perfect World," Johnston's gallery of characters includes frustrated dreamers. haunted victims, and ordinary folks taking a rueful inventory of their lives. His milieu is New York, and more than a few songs trace the disappointments encountered by a man who's at long last made a great escape to the big city only to find himself feeling more like an alienated outsider than ever

Johnston's lyrics possess a writerly quality rare in popular music in this postliterate age. He is, moreover, a nimble melodist, composing in a minor-keyed pop vein and striking, in the artful conjunction of words and music, a mother lode of pure emotion. Now, for his majorlabel debut. Johnston's presentation has achieved a new level of accessibility courtesy of a surprisingly nongrungy production by Butch Vig (Nirvana, Smashing Pumpkins). The surface of the music is tamer than on Johnston's earlier records, the rough edges smoothed and polished so as not to call attention away from his voice, which itself has been reworked into a far less quirky, though no less expressive, vehicle.

In truth, Johnston's never plumbed emotional duress as deeply as he does here in songs like Evie's Tears and Evie's Garden, whose protagonist is haunted by the memory of some past violation, and the title tune, in which a dying parent goes to see an abandoned daughter, petitioning her for clemency as a lonely cello groans with the heartbreaking line, "I still deserve to say goodbye no matter what I've done." Evie's Tears is a masterly example of Johnston's ability to match touching, troubling lyrics with beguiling melodies. The song's bridge, childlike in its simplicity (like a lullabye), is as tuneful and tender a moment as I've ever

heard.

Music this organic and rich recalls such forebears of folk-rock songcraft as the Beau Brummels (the countryish lilt of Gone Like the Water evokes the autumnal



aura of the Brummels' unsung classic Turn Around) and Buffalo Springfield (Disappointed Man could pass for one of Neil Young's more ambitious compositions with that group). That's pretty impressive company to be keeping, but Freedy Johnston belongs there. He's that good. Parke Patterbaugh

#### PREEDY JOHNSTON This Perfect World

Bad Reputation: Evie's Tears; Can't Sink This Town: This Perfect World: Cold Again; Two Lowers Stop; Across the Avenue: Gane Like the Water; Deloves: Evie's Garden, Disappointed Man; I Can Hear the Laugh ELEKTRA 51655 (40 mil)

## BEST# MONTH

## Glowing Dvorak and Lalo from Christian Tetzlaff and the Czech Philharmonic



he young German violinist Christian Tetzlaff has aroused quite a wave of enthusiasm among his fellow musicians in the last few years, and no wonder. In addition to the technical security we expect nowadays from young virtuosos, Tetzlaff, now twentyeight, brings to his musicmaking an all too rare combination of imaginativeness in his repertory choices, great seriousness in his respect for the material he embraces, and a no less striking sense of joy in bringing it to life. His new disc of the

The combination of the Dyorak and the Lalo is itself a fairly imaginative one, or at least one I have not encountered before. The two works, however, are not only contemporaneous but were really conceived on the same basic principles of musical pleasure: ingratiating tunes, rhythms derived from folk music, a range of colors effectively exploiting the resources of the orchestra as well as the solo instrument. More to the point, Tet-

zlaff's glowing performances refresh both works, not by imposing new or revised attitudes on them but wholly within their own well-defined character.

In point of fact, the Dvorak has not always been among the most beloved of violin concertos. It seems to require a very special level of sympathy, such as that shown by Johanna Martzy in the unforgettable recording she made with Ference Fricsay some forty years ago. Martzy and Fricsay responded to the concerto on an inspired level of unrestrained conviction expressed with the most genuine spontaneity, yet guided at every step of the way by an unfailing sense of taste and proportion; Tetzlaff and Pesek strike me as the first team to have matched their achievement. If any recording could help the Dyorak Violin Concerto become as popular as, say, the Tchaikovsky, this is surely the one. The Lalo, of course, has been a univer-

sal favorite for years, but it can still expand its field of admirers with the kind of elegant yet uncontrived performance it receives here. All five movements are relished to the full, and the sound itself, as in the Dyorak, is downright gorgeous

**DVORAK:** Violin Concert LALO: Symphonie Espagn Tetzlaff: Czech Philharmonic, Pesek cond. VIRGIN 45022 (63 min)

## The Uncompromising Patty Loveless

n a recent Journal of Country Music poll of country-music executives and producers, Patty Loveless showed up on the list of "most underrated country stars." After eight years of making records—all of them good—Loveless is just now beginning to reap the recognition she deserves. The reasons for the long delay are myriad, among them her habit of letting her music speak for her rather than playing the all-important record-biz political games. But never has she given less than her all to her records.

A case in point: "When Fallen Angels Fly." Titled after the Billy Joe Shaver song about recognizing and forgiving human weaknesses and foibles, her new album is vet another in a series of Loveless records that focus more on making deep. emotional connections with an audience than on topping the radio playlists. To be sure, there are concessions to commer-



ciality on all of her records; here, it's the rockabilly rave-up. I Try to Think About Elvis, a novelty tune in which a lovesmitten woman tries desperately to take her mind off a new man But on the whole, Loveless and her husband/producer, Emory Gordy, Jr. (he's also produced records by Bill Monroe, Jimmie Dale Gilmore, and George Jones), have stocked the album with exceptionally well-crafted songs that offer hope, healing, and dignity to the spiritually and romantically disenfranchised.

Steeped in the traditional country and bluegrass of her rural Kentucky upbringing (and holding close to her hard mountain accent), Loveless is the only commercially viable woman in today's country music with one foot staunchly in the old-time sounds and the other in contemporary thought. Here, she brings a decidedly bluegrass flavor to Tony Arata's A

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## BEST OF MONTH

Handful of Dust, using bold mandolin, litudi fiddle, and goosebumply-good highvocal harmony to underscore the song's noe-goopel message—that human beings are only a collection of elements until imbud with the spirit of love. Just as easily, she switches gears for a convincing delivery of the Rolling Stones-like rocker, Old Weakness (Coming On Strong), a song about resisting the temptation to renew a

troubled relationship.

But aside from enerly faultiess taste in material and a dedication to finding upmaterial and a dedication to finding upmaterial and a dedication to finding upmaterial to the state of the st

From inhabiting both characters in You Don't Even Know Who 1 Am, Gretchen Peters's remarkable song about married strangers and the slow dissolution of their union, to administering emotional salve in the hushed ballad Over My Shoulder, a near-hymn to self-reliance and faith, Loveless proves she's not only underrated.

Chung: delicacy and passion

in an industry that values celebrity over artistry. She's in a league of her own. Alanna Nash

#### PATTY LOVELESS

When Fallen Angels Fly
A Handfal of Dust; Halfway Down; When the
Fallen Angels Fly; Tow Dow't Even Know Who I
Am; Feelin' Good About Feelin' Bad; Here I Am;
I Try to Think About Elvis; Shipp; Old Weakness
(Coming On Strong); Over My Shoulder
EPIC 64188 (41 min)

## Kyung-Wha Chung's Brilliant Bartok

n her new EMI recording of Bartok's masterly Second Violin Concerto, Kyung-Wha Chung digs deeply into the essence of this music from the composer's peak creative period. Like the Bartok Second dremands collaboration on the very highest level from the orders and conductor, and Chung cretainly has that from Simon Rattle and the City of Birmingham Symphony, Soloist and orchestra are equal partners in the period of the control of the conductor of the control of the contr

Chang's playing is aggressive and fiery throughout the elaborate opening movement and in the frequent dislogue epiment and in the frequent dislogue epiment and in the frequent dislogue epiges. The central movement with its six variations has both deficacy and passion, reaching a peak in the skittery solo work and marvelously delicate perussion textures of the two final variations. The firance, a large-scale variation of the first movement, gets a no-holds-barred treatment, with Chang after most villaine.

Besides the concerto the CD includes Bartok's virtuosic and far from negligible Violin Rhapsodies Nos. 1 and 2. Again the ochestard note is formidable, calling in No. 1 for the added coloration of the cimbalom, the Hungarian counterpart of the hammered dulcimer. The performances are as full-out as in the concerto, and the sonies throughout are stunningly clear.

#### BARYOK: Violin Concerto No. 2; Violin Rhapsodies Nos. 1 and 2

Kyung-Wha Chung; City of Birmingham Symphony, Rattle cond. EMI 54211 (59 min)



THE CRAMPS: A Date with Elvis.
 RESTLESS/VENGEANCE 72765. Psychotic rockabilty stylings from 1986 (previously on Enigma), with bonus studio tracks.

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THE MONKEES: Changes.
RHINO 71798. From 1970, the
Pre-Pab Four's swansong album, fleshed
out with three bonus tracks including

their last (1971) single, Oh My My.

• THE MOVE: Great Move—The Best
of the Move. EMI 96060. Great singles
tracks (Tonight, Do Ya) plus the whole 1971

"Message from the Country" album by the
underrated progressive British pop band that

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• GERSHWIN PLAYS GERSHWIN. PEARL 9483 (two CD's). From the 1920's

and 1930's, all of George Gershwin's commercial piano recordings, both solo and with help from Paul Whiteman and His Orchestra, Fred and Adèle Astaire, or Lawrence Tibbett and Helen Jepson (in selections from Porgy and Bess).

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343 336. A program verging on the macabre, from Liszt's Mephisto Waltz to the "Dance of the Seven Veils" from Strauss's Salome, with the Detroit Symphony in late-1950's "Living Presence" sound.



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NEW RECORDINGS REVIEWED BY CHRIS ALBERTSON, FRANCIS DAVIS, PHYL GARLANI RON GIVENS, ROY HEMMING, ALANNA NASH,

PARKE PUTERBAUGH, AN

#### ARRESTED DEVELOPMENT Zingalamaduni

CHRYSALIS 29224 (54 min)

Performance: Preachy keen
Recording: Get the fut-grooved vinyl
"Ingalamaduni" is Swahili for "beehive of culture," and that's just what

white of culture," and dark just what you get on this preschment-cum-party. The album is loosely organized around the consumer of the consumer

Speech speechifies throughout, tending toward pedantic sloganeering on occasion ("Power to the people, y'all") but more often cutting to the heart of the matter with common sense and uncommon righteousness. Activism is urged (Shell, Pride), good feelings are shared (In the Sunshine, Warm Sentiments), and prayers are offered (Ease My Mind, Praisin' U). Ache'n for Acres makes a serious point about land ownership in under three fast-talking minutes; the issue recurs in the renter-as-chattel broadside Mister Landlord. The whole album has a laid-back, jazzy aura in that the songs are as conversational as they are constructed: it really does have the feel of a radio broad-

Edie Brickell: Baby's got soul?



#### BUCKWHEAT SINGS!



he doesn't, actually, but here's something aimost as good—

Hunts Play the Original Linte Raceals Musics' (Koch PixO). It seems Dutch musician Piet Schreuders reconstructed the soundrack tunes from the Raceals' Thirties Hall Roach comedy shorts—the work of heretofore unsung composer Leroy Shields—and then recorded them covered the state of the state

cast whose dual purpose is entertainment and education. Hope is such a rare commodity in these troubled times that "Zingalamaduni" is a welcome arrival on grounds of positivity alone; the fact that AD's outlook is bolstered by both an awareness of history and a vision of the future only adds to their appeal.

Picture Perfect Morning GEFFEN 24715 (41 min) Performance: Glossy Recording: Very good

Inleashed from the New Bohemian, baby-wiced field Brickell comes out more soufful and soductive on this first solo cuttivated in Dalis with husband Paul Stimon and Roy Hallor's R&B-Jazz-pop backing. Brickell will doubtless inspire "Ill follow you anywhere" fantasies with her around in trasthed cases. On Good Times, the evokes Smokey Robinson (and sometimes, Al Green) in her pean to light-headed Al Green) in her pean to light-headed except the pean to the pean to the control of the pean to the pean to the control of the pean to the

songs—mostly about not getting what you want or need—aren't so much songs as atmospheric canvases for the players to color in. Think of her as a less exotic, Texas sytled Sade, And on vacation, at that. A.N.

### Grace

COLUMBIA 57528 (52 min)
Performance: Otherworldly
Recording: Good

Sometime to the control acrey.

Should we Come Over, and though taken

Should we control to the should be comediated to the should be comediated to the shyrical world, be dipplay as remarkable gift for expressing anizably the son of his father, the liat Time

Buckley, But Jeff is entirely a self-made artist, without any guidance from Buckley

But Jeff is entirely as elf-made artist, without any guidance from Buckley

The shir residues creatively into areas as ex-



treme as any that Tim Buckley explored and far earlier in his career, to boot. His songs are occasionally unwieldy (Corpus Christie Carol, Lilac Wine) but more often brilliant in their evocation of mystery, ecstasy, and the Sisyphus-like frustration of a soul determined to push over the hill to the next horizon.

Mojo Pin, reptised from last year's live four-song EP teaser, remains Buckley's crowning achievement, and it's rendered even more dynamic here with the addition of a rhythm section. Close on its heels is to fill the difference of a performance that finds the artist trying to rise above earthbound agonies to catch a glimpse of the light. Playing broken chords and singing distempered melodies that resolve into recognizable handholds of songeraft, Buckley avails himself of an almost



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#### POPULAR MUSIC

operatic chiaroscuro of light and shadow. The adventure reaches a feverish peak in the adrenaline outpouring of Eternal Life. in which he shouts and slashes with a reckless energy and grungy dissonance worthy of Seattle's finest. Yet his goal is beyond that scene, and "Grace" must be heard to be believed. Watching Buckley develop from this audacious starting point will be a pleasure, as the sky's the limit for a talent of this magnitude.

#### DAVE EDMUNDS Plugged In PYRAMID/RHINO 71770 (43 min)

Performance: Exhilarating Recording: Fine

he title of Dave Edmunds's new solo effort (apart from the obvious MTV jibe) refers to the fact that for the first time in nearly twenty-five years, Edmunds has made an album the way he did in the beginning-as a one-man show, playing and singing every note by himself. The irony, of course, is that despite incredible strides in recording technology (a copious list of hitech equipment documented in the CD

## The Joy of Judy-ism

or a great singer, Judy Garland made more unworthy recordings than anybody short of Elvis, and here's a revelation-some of them were right at the beginning of her career. Doubt it? Check out "Judy Garland: The Complete Decca Masters (Plus)," a new four-CD set (MCA 11059) of everything Garland recorded for Decca between 1936 and 1947. Along with some familiar gems

are substandard takes on classics from The Wizard of Oz. Meet Me in St. Louis, and The Harvey Girls. plus scads of justly forgetten tunes that never made it to the charts

This wellremastered ninety-song collection also

proves that Garland could sound great even when saddled with pedestrian arrangements and material. From the bubbly Swine Mister Charlie (recorded at age fourteen) to her wryly delicious duets with Bing Crosby (Connecticut) eleven years later, there are enough moments here when she can still knock more than your socks off. R.H



credits), Edmunds's music still sounds exactly as it always has since the late Sixties-masses of trebly, nasal guitars and vocals set to perfect (albeit retro) beats in the service of basic but witty formalist songwriting. In any case, "Plugged In" is vintage Edmunds-a little rockabilly, a little blues, a little Chuck Berry-ish rock, an occasional genre parody (here it's the Brian Wilson pastiche Beach Boy Blood (In My Veins)-and as usual it runs the gamut from entertaining to brilliant. And for a change the best is saved for last: a hilariously overthe-top remake of Edmunds's first hit (Sabre Dance 94) that the guys who used to spin plates on The Ed Sullivan Show really should have lived to hear. Let us not mince words-this guy's so good he ought to be nationalized.

#### JULIA FORDHAM **Falling Forward** VIRGIN 39559 (50 min)

nance: Whispers to hist Recording: Very good

n her fourth album, English chanteuse Julia Fordham continues in the vein of her earlier work, crafting feathery, jazzy pop out of seemingly thin air. This time out, she's produced by Larry Klein, who lends his expertise with the kind of layered female vocal washes that characterize the work of his wife, Joni Mitchell. As a writer, Fordham is concerned with nothing but romance, but from an almost intellectual vantage point. Melodically, she can be tedious, her lyrics sometimes border on cliché ("I know why the caged bird sings / And it's not what you're thinking"), and as a singer, she is like a muse riding an air wave-there seems to be nowhere she can't go, which is not always a good thing. At times, her expressive contralto turns too strident in an attempt to convey intense emotion, single notes and phrases blending in a sort of vomitous rush. Most of the time, however, Fordham creates an ebullient atmosphere of hope, exaltation, and beauty. If she walks a thin line between control and excess, well, don't we all?

#### NANCI GRIFFITH

ELEKTRA 61681 (56 min)

ast year Nanci Griffith, who once described herself as a "folkabilly," won a Grammy for "Other Voices, Other Rooms," an album that ripped off Truman Capote for

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## **Country Music with** a Red Ribbon

s the entertainment of smalltown America, country is by far the most conservative of all popular-music forms. But because it also reflects the lives of the eternally troubled Everyman, country is one of the most realistic pop genres, rarely shying away from any difficult top-



longtime friend John ic, from cheating to Jennings's extraordidrinking to unwed mothers. Yet two still-powerful taboos-mainline drug use and homosexuality-have kept country music from dealing with AIDS until recently. The change is signaled, in part, by Reba McEntire's recording of She Thinks His Name Was John, which addresses heterosexual transmission of something I cannot control." the disease, and now the release of "Red Hot + Country," the long-awaited

efit organizations involved in AIDS treatment and research. A terrifically diverse collection of muslc, "Red Hot + Country" sometimes finds unlikely performers joining together to revamp classic songs: Brooks and Dunn rock up Johnny Cash's Folsom Prison Blues, for example, with Cash dropping by to lend an unearthly recitation; Suzy Boggus, Alison Krauss, and project coordinator Kathy Mattea support Crosby, Stills & Nash on Teach Your Children; and Mattea and Jackson

compilation album featuring many of

Nashville's biggest stars. Sales will ben-

Browne duet on Rock Me on the Water. But most of the time the performers simply pay solo tribute to the writers, artists, and music that most influenced them and helped them shape their styles, which brings some surprises: Dolly Parton does a hopped-up rendition of George Jones's You've Gotta Be My Baby, and Sammy Kershaw reaches beyond his country roots into the James Taylor troubadour tradition for a sobering and affecting Fire and Rain.

Several songs, such as Bob Dylan's Forever Young, interpreted here by Johnny Cash, The T.B. Is Whipping Me, the old Ernest Tubb tribute to Jimmie

Rodgers as performed by Wilco with Syd Straw, and Patty Loveless's When I Reach the Place I'm Going, take on almost entirely new polgnancy in the light of AIDS. Only Mary-Chapin Carpenter chose to deal directly with the disease, recording her

nary Willie Short, a song told from the point of view of a man with AIDS. Stark and haunting-its melody has a nearly Elizabethan quality-the song never goes overboard lyrically, drawing its power instead from understatement: "It's hard, mister, dving by inches / Of

In fact, the biggest problem with what is otherwise a splendid album is that many of the performers seemed to forget why they're here, performing material that simply does not fit the subject. Not every song needed to address the issue head-on-Nanci Griffith and Jimmy Webb demonstrate that beautifully on Webb's If These Old Walls Could Speak, which captures a mood of reflection and summing up a life lived. But Close Up the Honky Tonks (Radney Foster) and Crazy (Jimmie Dale Gilmore and Willie Nelson) just seem goofily out of place.

That said, there's a wonderful spirit of union and camaraderie here, a selfless coming together for a cause higher than ego and career advancement. It often makes for memorable musical mo ments, and a true contribution to country-music history. Better still, it underscores the best in a format that usually promotes reckless, unchecked behavior over the betterment of humanity. If this project stimulates any awareness of spiritual connectedness-as well as awareness of AIDS in general-then here's to an album of near miracles. Alanna Nash

RED HOT + COUNTRY MERCURY 314 522 639 (67 min) its title and borrowed from every successful songwriter of the genre since the Beginning of Time. Well, that's no surprise. The Grammy voters, who on the whole don't know spit about folk and country, are easy marks for collections like that. And if you loved Griffith's earlier, simpler, Texas-inspired work (as I did) then you see her recent work as either more mature and passionate or increasingly arty, humorless, pompous, precious, and preachy (guess

which side I come down on). On this collection of new original songs (only one, Julie Gold's archly grand Southbound Train, comes from an outside source), Griffith drops some of her endlessly annoying mannerisms and gives some of her posturing a rest. To be sure, she is still A Very Important Artist, documenting the songs of her travels, which couldn't possibly be as interesting as yours or mine. But aside from Nobody's Angel, Griffith holds back the narcissism to make room for guests Adam Clayton (U2), Peter Buck (REM), Adam Duritz (Counting Crows), the Indigo Girls, the Chieftains, NRBO's Al Anderson, the Bodeans, and Mark Knopfler

In the end, though, too many of these songs, presented in often busy arrangements, plod along at midtempo, and Griffith's knack for memorable, poignant images doesn't surface very often. "Flyer" is more an exercise in record-making than in making music, a melancholy vovage into the Hallmark Greeting Card school of songwriting.

#### TISH HINOJOSA Destiny's Gate

WARNER BROS, 45566 (43 min) Performance: Falls between cracks Recording: Very good

n 1992, Mex-Tex singer-songwriter Tish Hinoiosa recorded an arresting album for Rounder ("Culture Swing") that blended American folk and country and Spanish traditional music in a meaningful way. Both her sweet, soaring melodies and sparse instrumentation bucked the trends of commercial radio, while her themes (migrant workers, pesticides, the way the Rio Grande defines the lives of Mexicans, etc.). went deeper than most contemporary coun-

try fare. On the strength of that album, Warner Bros, signed Hinojosa, and now comes her major-label debut, which largely waters down her subject matter and dilutes her folk-country approach with not-so-subtle pop accents. While she continues to record both in English and in Spanish and to hit upon at least one social theme (Love of Mine, in which a woman works as a domestic so her child won't have to), "Destiny's Gate" presents Hinoiosa with one hand tied behind her back; the album is neither folk nor country, neither emotionally involving nor intellectually satisfying. And when she does her rockabilly rave-up, I'm Not Through Loving You Yet, you can't help but wish she'd really cut loose. Enjoy "Destiny's Gate" for the sheer pleasure of Hinoiosa's modest, tremulous soprano-but find

the Rounder record, pronto.

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\*Quote excepted from a review of the 1825 (e) inchnoising from the April 1992 issue of Analis Magazine. The Vivid 2D sound enhancement speem was the Razal Vision. "Bost Product" award in May 1994, and the Introduction are

## Chants Don't Suck



© a. dade, you say you got that bestselling "Cham'l Habur on Angel and then noticed it didn't exactly us, nock? Well then, mout and buy "Chamimania" (Rhino 76025) by the Benzedrine Monks of Sanno Domonicas (Generly Jaux-Fifties rock satirists Big Doddy), featuring planning versions of pop classes like R.E.M. 'a. Lozing My Regions and the mem From The Monker, And weath for the Brother, the Monker, And weath for the Brother with which we've have the mouth of propagation of the Cham'l Andrew Monker, who who they work the caner arivoire from no less a sage than Mel Brook's 2000 West Old Mun. S. S.

#### Full Moon, Dirty Hearts ATLANTIC 82541 (40 min)

fter ten albums there's still not an ounce of fat on INXS. Not a wasted note, not one superfluous flourish. "Full Moon, Dirty Hearts" is all bone and sinew, a lean rock album of almost classic dimensions (twelve songs, 40 minutes) that doesn't labor over its points but aims squarely for the bull's-eye. Combining the firepower of the Stones at their most taut and brutal with the edgy, dark-side polemics of the Doors, and setting this boldly outlined alchemy to an elemental dance-club beat. INXS makes music that mirrors the mood of the age-agile, troubled, determined, angry, uncertain of a final destination but speeding there on a steady course just the same.

same.

Given the music's spartan density, it's hard to imagine someone else cutting in from outside. Guest Chrissie Hynde merely shadows Michael Hutchence's vocal on the brooding title track. It takes a genius like



Ray Charles to shochom his way into IN-XS's contracting universe. In Places (700 of t ..., he and Hutchence bring out cach syllable stands for something, as does what's implied in the pregnant pauses between words. But it's when left on their order that it is the proper of the contraction of of th

#### Rockin' the Juke Joint Down EARWIG 4901 (57 min) Performance: Genuine Recording: Good

ou can find the blues in the most unlikely places these days, but there is an area of this country where the genuine article still thrives. A river (the Mississippi) runs through it, and decades of rich musical tradition has left the countryside steeped in the sounds that gave immortality to the likes of Bessie Smith, Ma Rainey, Leroy Carr, Robert Johnson, and Blind Lemon Jefferson. In 1975, when blues enthusiast Michael Frank left Chicago on a talent search that would take him to Tennessee and points beyond, he had specific performers in mind, the Jelly Roll Kings (also known as the Blues Kings) in particular, He found them rather quickly, but three years would pass before he could assemble them in a Memphis studio and, as he puts it, get into the record business. Organist/harmonica player Frank Frost

Organissmanning payer trained up in 1956, and guitarist Jack Johnson Joined them in 1962. Still, unless you are a dedicated, serious-as-life blues fan, you may not be familiar with the band. But the rapport shared by these three instrumentalists reflects their years together, and the vocals, by Frost and Johnson, are frosting on the cake. "Rockin the Juke Joint Down" was

originally issued in 1979, and it may have you wondering why these artists are not more prominent. The answer is, of course, is that blues in this grass-roots form gets very that exposure, when the condition of the course of the

#### REBECCA PIDGEON

The Raven CHESKY 115 (46 min) Performance: Nice, but . . . Recording: Terrific, but . . .



mooning over Joni Mitchell records—but she all skillfully pot together and the voice is attractive in an Enja sort of way. Actually, if there's a IJ in the climment is the al-bun's all-digital "audiophile" production. In the abstract, it's appert—clean, ransaparent, just too damn realistic, at least for my taster if you're going to inimize lond Mitchell, you might as well imitate her arry, big-budget production gloss while you're at at my displayed and all, then, a pleasant if not overwhelming all, then, a pleasant if not overwhelming better next time on temporary of the production gloss some monodoy when overwhelming the production gloss some monodoy when commonly one of the production gloss some monodoy when our some of the production gloss some monodoy when the production gloss some production gloss som

## THE POGUES Waiting for Herb CHAMELEON 61598 (46 min) Performance: Gets by Recording: Good

aving lost their main man, toothless wooder Shane MacGowan, the Pogues wooder Shane MacGowan, the Pogues are a much less edgy, dangerous outfit. There's more Chieflains than Chieflains and the Shane Chieflains that the Sha

and Big City, which take wing on flights of profoundly silly fancy ("The secret of the universe is hidden in this song / La-lala . . "). What really makes the Pogues tick like God's own metronome is the jaunty interplay of banjo, accordion, and mandolin. Spider Stacy's vocals are adequate: they're no match for MacGowan's scarifying rasp. and he double-tracks awkwardly, but he'll do. The biggest letdown here are the songs themselves, which fail to rise above the ordinary about half the time. Be it the unspectacular tale told in Haunting, the recycled urban sentiments of Modern World, or the drummer's wretched vocalizing in My Baby's Gone, this album does have its soft spots. At the same time, the Pogues manage to make an endearingly cozy racket on "Waiting for Herb" just often enough to

#### KEVIN SALEM Soma City ROADRUNNER 009 (52 min)

his is a rave, so let's get right to it: Kevin Salem, formerly of the Boston cult band Dumptruck, has made the most impressive solo rock record in ages. It isn't grunge, it isn't metal, it isn't alternative (except in the sense that it's on a small label). It's just a collection of smart, tuneful, deeply felt songs about somebody's real life, passionately sung in a classic sweetbut-ravaged voice in front of what sounds (at least while you're listening) like the greatest rock band in the world, all ringing guitars and thunderous drums. The influences are obvious-Dylan, middle Stones, the Velvet Underground, the Replacements-but it never sounds derivative. merely right; think Matthew Sweet with more attitude, or a young John Hiatt breathing fire as the lead singer of Television, and you'll get the idea. Add a deceptively no-frills but in-your-face production by Niko Bolas (Neil Young, Warren Zevon) and "Soma City" shapes up as that rarest of artifacts—an all-but-perfect debut

#### STONE TEMPLE PILOTS

ATLANTIC 82607 (49 min) nce: Has its me

Stone Temple Pilots are purveyors of grunge-by-numbers, having taken the anarchy loosed by many truly dangerous Seattle bands-dangerous especially to themselves-and put it back in the bottle. Formulaic grunge may seem like a contradiction in terms, particularly emotional terms, but it sells well to middle-American kids who've got angst in their pants but really don't want to die just yet. So an album like "Purple" is ideally coifed and perfectly timed to capitalize on the mosh-pit manqué sensibility. The upside of all this is that suicide, broken necks, and other forms of bodily abuse really aren't that cool, so perhaps a more well-tempered, commercially polished grunge with mass appeal isn't such a bad thing after all.



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To their credit, Stone Temple Pilots evince signs of growth on "Purple," particularly the more varied second side. (I've got the vinyl-purple vinyl at that. Cool!) There, the serviceable, humdrum grunge of the first half gives way to a series of pleasant surprises, especially the Cream-like hooks, mood and tempo shifts, and rococo arrangement (is that a dobro?) of Big Empty. Then there's the fearsome wallop of Army Ants, the haunting depth and eerie meter of Kitchenware & Candybars, and the self-effacing satire of the unlisted twelfth track, a tongue-in-cheek album summation titled 12 Gracious Melodies. Okay, maybe it's just grunge-lite, but it's not bad, either.

#### THEY MIGHT BE GIANTS John Henry ELEKTRA 61654 (57 min) Performance: Big Recording: Very good

hey Might Be Giants, but they're not too swell-headed to know when the novelty's worn off and the concept is due for an overhaul. So John Flansburgh and John Linnell have added other musicians to their

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#### They Might Be Gignts, expanded

wacked-out world, trebling the size of the band with a bassist, drummer, and horn section. The sound is bigger and fuller, amplifvine their ironic wit rather than trampling it. The expanded lineup has inspired the two principal Giants to the degree that song quality rarely flags throughout their latest album, "John Henry." Words and music are still arrestingly off-kilter, and the stamp of hornman Kurt Hoffman (formerly of the avant-garde rock orchestra the Ordinaires) is particularly evident in tunes like Spy, which instrumentally deconstructs with anarchic precision.

Flansburgh and Linnell continue to recontextualize pop iconography and employ language in surprising and amusing ways. Linnell recites a litany of Alice Cooper sone titles while posine the question Why Must I Be Sad, thereby getting inside the head of a kid who sincerely believes the ghoulish rock star understands his despair better than anyone (the surging, unironic music suggests that this one might have been written more from empathy than sarcasm). Later, in I Should Be Allowed to Think he reworks a famous Allen Ginsberg line as, "I saw the worst bands of my generation applied by Magic Marker to drywall." Vignettes here have the tragicomic tang of real life, as in this succinct, Flansburghsune scenario: "I got a crush / Copy shop clerk / But she won't look at me." There are (praise the Lord) no love songs, no message songs, and no baring of the soul or political commentary. Rather, the small moments and random thoughts that stream into a receptive mind are organized into fastidious, inscrutable constructs that, like the lyrics of the late nursing-home savant Ernest Noyes Brookings, nonetheless have a fundamen-

tally sound internal logic to them. With "John Henry," They Might Be Giants once again prove that the surest means of survival in a world gone blooey is a well-cultivated sense of the absurd. This is pop, or what it ought to be in a perfect world.

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#### THE TRACTORS ARISTA 18728 (47 min) ermance: The real dec Recording: Extra fine

ow the hell did the Tractors get on a major mainstream label? They're too deliciously left-of-center for most of the Nashville biggies, and yet here they are, backed by a company that's usually only in-

terested in the latest radio clones. Actually, these guys are a Tulsa outfit made up of a veritable who's who of seasoned session and road players; individually, they've backed everybody from Bob Dylan to Bonnie Raitt to Leonard Cohen. Their mission: To look at music the way people did before it was specifically categorized. In other words, to mix greasy guitars with popping percussion, boogie, rockand-roll, western-swing, and Hank Williams whenever the spirit moves them, preferrably loose and loud. With a dozen or so of their famous friends (Raitt, Russell, J.J. Cale, James Burton, Ry Cooder, Eldon Shamblin, Debbie Campbell) on hand, the Tractors make the most of a party. But undemeath their dedication to good times runs a very serious undertow: "Tryin' to get peo-



ple interested in what it is we're allowing our elected people to do and get away with." As such, there are plenty of hangloose but dead-on songs about "the little man," and "the city-slick bankers, the IRS boys, and the politicians" who muck up the American dream. But there's also lots of straw-chewin' fun, like Fallin' Apart, a paranoid's dream that weds a laid-back, lazy hillbilly beat with a raggedy tarpaper shack, Hee Haw-via-Alfred E. Newman ambience.

In short, anyone who remembers Billy Hill, or loved Leon Russell's Tulsa sound of the Sixties and Seventies (several of the same players appear here), should run, not walk, to climb aboard the Tractors. In this case, it's okay to operate heavy machinery while under the influence. AN

#### DON WALSER Rolling Stone from Texas WATERMELON 1028 (39 min) Performance: Refreshing Recording: Good

n an age when twentysomething Hat Acts barely know how to stand on stage but record sparkling radio hits patched together from countless studio takes, sixty-year-old Don Walser is the real thing, A Texas honky-tonk performer since the Fifties,

Walser is a master of the old Hank Williams-Bob Wills-Jimmie Rodgers styles, as adept at honky-tonk blues, country-swing, and cowboy yodels as any of the big names you already know.

Yodeling, in fact, is Walser's stock in trade. At times, as on the old Stan Jones song Cowpoke, Walser's clear, beautiful yodel takes on a flute-like quality. Elsewhere, his range extends so far that you'd swearand I hope of Don takes this kindly-he'd have to be a soprano to jump up that high. He hardly looks it, though (Don's a big, well-rounded fella), and he certainly has the muscle to record most of this album of originals (the title song) and country classics (Willie Nelson's Three Days) in one take-a feat that should inspire awe in the Clay Walkers and Tracy Lawrences of this world.

With Asleep at the Wheel's Ray Benson co-producing, and pickers such as fiddler Johnny Gimble and steel-guitar legend Jimmy Day on hand, this is one authentic timetrip to Texas's back-alley honky-tonks and cantinas of yore (although with modern sound, of course). Mighty fine, fellas, mighty fine.

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POPULAR MUSIC

#### CHERYL WHEELER **Driving Home**

PHILO 1152 (48 min) ce: Wistful rding: Very good

ike fellow folkie Nanci Griffith, Cheryl Wheeler went to Nashville a couple of years ago and failed to watch her records scurry up the charts. But then Nashville is a tough town for any literate songwriter, especially one born and schooled in New England and for whom the whine of a steel guitar does not fall easily on the ear. If Mary-Chapin Carpenter, with whom Wheeler shares a personal writing style, is the only neo-folkie to successfully bridge the commercial country gap, it doesn't mean there aren't others out there who deserve to be heard. And Wheeler is definitely one of

This collection of extremely thoughtful songs is more subdued than Wheeler's earlier "Circles and Arrows," befitting snowy winter afternoons and hot tea breaks rather than upbeat summer folk-fests. Wheeler, who can write at poetic length about the simplest of topics, excels at chronicling the passage of time and the changing of relationships (75 Septembers, a kind of love song to a father), as well as fashioning dead-on word portraits about people who have filtered through her life (Frequently Wrong, about a sad blowhard of a family friend). But before you write her off as a bookish intellectual, give a listen to Don't Forget the Guns, a novelty song about the casualness with which guns are regarded in this country-hardly a Valentine to the NPA



RICHARD BOONE The Singer STORYVII J F 4186 (74 min) Performance: Excellen

then trombonist Richard Boone joined the Count Basie Orchestra in 1966, he was a major asset to the brass section, but it was when Basie brought him front and center as a vocalist that Boone really attracted the public's attention. During his three years with Basie, Boone supplied comic relief by stepping up front and delivering witty vocals in a unique style that combined straight singing with scat, whoops, hollers, and vodels-the audience loved it. In the early Seventies, Boone took up residence in Denmark, where Storyville Records has now assembled a wonderful collection of his work. It's fair to say that this generous 74-minute serving, with diverse accompaniments, explores every aspect of Boone's vocal style, and you won't need a sense of humor to appreciate it-although that will heln

The set begins with a couple of previously unissued Basie tracks taken from a 1968 Paris concert and continues with eight se-

lections made around the same time for the 122 STEREO REVIEW NOVEMBER 1994

ill-fated, Los Angeles-based Nocturne label. These include highly original readings of such standards as Berlin's There's No Business Like Show Business and Old Folks and a couple of delightfully off-beat tunes, Framed and Cocoa Joe, sung with sophistication and a prepossessing wit. The rest of the album-with accompaniments by Danish bands-includes Jesper Thilo playing beautiful flute behind Boone's relatively straight vocal on the Roberta Flack hit. Killing Me Softly, a fine reading of Doodlin' (which Sarah Vaughan recorded with the Basie band), and Louis Jordan's Sure Had a Wonderful Time. You'll have a wonderful time, too.

ROY CAMPBELL La Tierra del Fuego DELMARK 469 (63 min) Performance: Needs work Recording: Very good

lthough forty-two-year-old Roy Campbell has been on the music scene for many years, "La Tierra del Fuego" is only his second release as a leader. Like his previous "New Kingdom," the new album reflects Campbell's keen awareness of his own musical heritage and his deep interest in ethnic music in general, but he is a better performer than this album would indicate. A trumpeter whose intense, fiery style and eloquent bop expression were fine-tuned by an impressive trio of instructors (Lee Morgan, Kenny Dorham, and Joe Newman), Campbell here sets out to demonstrate his ability as a composer-arranger. Perhaps that is what's wrong with this album of Campbell originals-it gets bogged down in mundane Spanish-tinged arrangements that often stand in the way rather than frame and enhance individual expression. Granted. Campbell delivers some combustible solos, and there are fine tenor statements from Zane Massey. But repeated listening did not alter the fact that I often found myself wishing all concerned would get on with it and make something happen. C.A.

> TOMMY DORSEY AND FRANK SINATRA The Song Is You RCA 66353 (five CD's, 364 min) Performance: Topnotch rding: First-class remaste

he revelation here is not just how good Frank Sinatra was at this early stage of his career, but how unmatched the whole Tommy Dorsey aggregation was in those peak Big Band days of 1940-1942. With Dorsey himself on trombone and Joe Bushkin, Ziggy Elman, Bunny Berigan, and Buddy Rich among the sidemen, plus Connie Haines, Jo Stafford, and the Pied Pipers sharing vocals with Sinatra, the band could swing out excitingly with a cohesion and consistency that no one else surpassed.

This beautifully packaged compilation brings together every recording Sinatra made with Dorsey, including six unreleased alternate takes and twenty airchecks previously unavailable commercially. On most of the 120 tracks, Sinatra sings in the mellow, long-lined style that he openly modeled after Dorsey's smooth, legato trom-

#### PULAR MUSI

bone technique. Beyond his incredible breath control, there's also the instinctively warm, intimate, sexy handling of lyrics with which Sinatra shook up and refocused just about every crooner's approach to pop singing in the early Forties.

In addition to their enduring musical merits, these recordings have never sounded so good as in this digitally remastered collection. Now if only RCA would do the same for its remaining non-Sinatra Dorsey recordings of this period.

#### DUKE ELLINGTON Live at the Blue Note ROULETTE 28637 (two CD's, 135 min) Performance: A must

Recording: Excellent remote

A cording to Stanley Dance, who should
know, Duke Ellington was fond of
playing at Chicago's Blue Note, which he
called "The Metropolitan Opera House of
Jazz." Between 1947 and 1960, when it
closed, Duke was booked into the club sev-

enteen times for a total of 45 weeks, and if you are not among the fortunate who caught the band back then, be glad that someone did—on tape.

"Duke Ellington: Live at the Blue Note" is a two-CD set containing twenty-seven

"Duke Ellington: Live at the Blue Note" is two-CD set containing twenty-seven selections (including fourteen previously unissued) recorded during three sets on August 9, 1959. The sound is exceptionally good, due to the use of overhead mikes, and

the hand is in as fine a form as I have ever heard it. Even Billy Strayhorn is on hand. replacing Duke at the piano for the opening selection, a rousing version of Take the A Train, and joining him at the keyboard on Tonk, C Jam Blues, and Drawing Room Blues. The rest of the program is a mixture of old and new Ellington fare, harking back to the early days (or, as Duke put it, "the time before I joined the band"). Thus we hear The Mooche and Black and Tan Fantasy in modern dress, and four tunes written for the film Anatomy of a Murder, which had just premiered. (The latter tunes were certainly part of Duke's repertoire, but they may have been included on this occasion for the benefit of Michigan Supreme Court Justice John D. Voelker, who was present and on whose book the film was based.) So, there you have the setting, a fertile



environment for a band that included, among others, Johnny Hodges, Russell Proamong others, Johnny Hodges, Russell ProLink Terry, Shorty Baker, Ray Nance, Cast
Anderson, Quentin Jackson, Briti Woodman, and Paul Gonsalves. Rather than go
into details, let me assure you that these
great players sound as inspired as their
leader. Numerous live Duke Ellington
croofings have been released, and many
corolings have been released, and many
look hard to find a set that captures as much
look hard to find a set that captures as much
music and good sports as this captures.

## Stompin' at the Penny COLUMBIA/LEGACY 57829 (41 min) Performance: Remarkable

Recording: Very good ne writer called him "the Jimi Hendrix of his time," but New Orleans-born singer/guitarist Lonnie Johnson deserves better. He was a pivotal performer whose single-string guitar style and extraordinary twelve-string solos recorded with Louis Armstrong and Duke Ellington in the Twenties virtually set the course for the guitar as a solo jazz instrument. Such giants as Charlie Christian and B.B. King acknowledged their debt to Johnson, and rock music continues to bear his influence. Johnson was also the original comeback kid, surviving a series of setbacks that began with the flu epidemic of 1918-which



### QUICK FLXES



#### BODY COUNT Born Dead

VIRGIN 14205 (47 min) IEC-T is a cool gay and a great screen presence, but his heavy-metal band remains a so-so proposition. Here, the indictments of The System continue to sound less than convincing when marketed by a multinational corporation, and the recent Jimi Hendrik tribute) suffers from—of all things—a less than stellar lead vocal.

S.S.

#### FELIX CAVALIERE



#### AADCHII DOEN AE SAIII

Anyone Can Join! RHINO 71739 (46 min)

Given the all-star cast (the Uptown Horns, Sam Moore, Swamp Dogg, Rufus Thomas, the B52's Fed Schneider) and High Concept (everybody) is a soul singer), this might have been either a world-class mess or the party album of the year. Fortunately, the latter is pretry mach Beach, reworked here as a Sittist R&B duet featuring the eternally nassal Josy Ramone and General Johnson. S.S.

#### PUBLIC ENEMY Muse Sick-N-Hour Mess Age

DEF JAM 523362 (74 min)
Yes, Chuck D. and company are historically important, and sure, some of the music here has an undeniably impressive metallic churn. But when all is said and done, too much of this stuff is just a selfrighteous gasbag rhyming over old Sam and Dave samples.

S.S.

#### THE CLIFF RICHARD COLLECTION 1976-1994

RAZOR & TIE 2039 (76 min)
An agreeable, if esthetically slight, hits package from a guy who started as an Elvis clone and turned into the longestrunning success story in British rock. I don't think, however, that if Elvis had lived he would have dueted (Suddenly) with Olivia Newton-John. S.S.

#### JOE SCRUGGS

SHADOW FLAY 350 (56 min) combining humon, memorable melodics, variety, easy vocal delivery, and un uncampan, variety, easy vocal delivery, and un uncampan, variety, easy vocal delivery, and the strength of the strength of

#### THE SHADOWS OF KNIGHT Dark Sides—The Best of the Shadows of Knight

RHINO 71723 (53 min) Hy on lived in Chicago in 1965, these local heroes were a bigger deal than the Beatles and the Stones combined. Fortunately for the rest of us, most of their music—from the hormonal hit version of Them's Gloria to killer originals like Light Bulb Blane—is sensational anytime, Light Bulb Blane—is sensational anytime, Stads really were the all-time American sensephole-viewing band. S.S.

#### PAUL WINTER

Prayer for the Wild Things LIVING MUSIC 0028 (68 min)

La trivolo viscles doctor ommigranity in the Teath Music Celebration of the Northern Rockies\* are as pretentious and self-congranitatory as Dances with Webver, the music itself is attractive, ovcative, and opine powerful; from the start there is a sense of reflections of prehistory and of connection with potent great sprint. The cries and songs of twenty-seven beauti music of the Earth Band of the Winter on soprano saxophone, and the overall recorded sounds is excellent.

wiped out most of his family—and continued until 1959, for what was to be his final comeback. Though his power was flagging, he appeared in clubs and concerts both here and in Europe and eventually moved to Canada, where he made a guest appearance with bassist Jim McHarg's Metro Stompers on some tracks of a 1965 album entitled "Stompin" at the Penny." The album, which had limited distribution up North, is now available here for the first

McHarg's youthful group adheres to the New Orleans tradition, maneuvering with ease and devotion through a repertoire that in the main consists of tunes from the early days of jazz, Johnson catches the spirit with a lively solo on the opening track-a rousing version of China Boy-giving it more of the old dazzle than I can remember him mustering up in the preceding six years. We also hear his distinct, engaging singing voice on several tracks that include his own accompaniments. Charles Gall, a Scottish cornetist with a clear, crisp tone and a wonderful vintage imagination, contributes mightily to the set, outdoing himself on Dippermouth Blues. I should also mention the band's splendid clarinetist, but neither he nor the rest of the band are given credit on the album, which is a serious omission by the usually thorough Columbia/Legacy production team. All in all. however, well worth hearing.

## FRANK WESS Opus in Swing SAVOY 0144 (31 min) Performance: Smooth as silk Recording: Very good

Recording Very good

"The history of African-American music
on records could not be written without
mention of the Newart, New Inersy-based
Savoy label, which captured many member
performances by great black performers of the post-WWII period. The
ment of ficher-is currently being reissued
on CD, bringing back important work by
sch glant as Destre Gordon, Dizzy Gillespic, Lester Young, Erroll Garner, Charlie
Parker, Charles Mingus, Mill Jackston, and

Miles Davis. One of my favorite Savoy albums was the 1956 "Opus in Swing," a straightahead, unpretentious session by a Frank Wess quintet featuring the leader on flute. The feathery, rhythmic foundation will remind you of Basie's All-American rhythm section, thanks in great measure to Freddie Green's lighter-than-air guitar, but also because bassist Eddie Jones (another Basieite) and drummer Kenny Clarke know precisely how to delicately propel a group. Completing the quintet is Kenny Burrell, the group's solo guitarist, who had only recently arrived on the scene. This gentle, swinging music was called "chamber jazz" in the Fifties, and while it has the quiet ambience of what you might hear on today's so-called "lite music" stations, this stuff actually has substance. I do have one complaint: 31 minutes was a skimpy serving on the original LP, and it is even more deplorable on a CD.











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# CLASSICAL MUSIC

NEW RECORDINGS
REVIEWED BY
ROBERT ACKART,
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EDIC SALTMAN, AND

BEETHOVEN: Ceilo Sonatas, Opp. 69 and 102; Variations on "Judas Maccabaeus"

Maisky; Argerich
DEUTSCHE GRAMMOPHON 437 514
(73 min)

#### Performance: Sweaty Recording: Excellent

expect electricity, individualism, passion and even recklessness from these performances by cellist Mischa Maisky and pianist Martha Argerich, though you may often wonder how much the music benefits from it. I like the Romantic ebb and flow they give to the A Major Sonata, Op. 69, as well as the cragginess of the architecture that emerges. There are invigorating surprises at every turn-rubato where you don't quite expect it, accents that give phrases unusual twists, and exaggerated dynamics-surprises that are perhaps best appreciated by those who have heard the sonata more times than is healthy and need to be jostled around a bit to rediscover it.

The two sonatas of Op. 102, written last in Beethoven's career and quirky in form, require a more personal, less generalized response than performers can get away with in his middle-period works. Though mere and the second of the second of

BRAHMS: String Quartets Nos. 1 and 3 Borodin Quartet

TELDEC 90889 (69 min)
Performance: Dramatic
Recording: Rich

While a 1963 recording of at least one of these quartets by the "old" Beordin Quartet has circulated on CD, both of the original violinists were replaced some twenty years ago, and this Teldec issue is a new recording by the current foursome. The playing, in any event, is very much in the Boordin Quartet tradition: alter and expressions of the production of the producti

These players do not settle for mellowness or "autumnal" qualities in this musicbut seek out a more active drama in it. They seem to relish its darker colors, especially in the C Minor Quartet (Op. 51, No. 1), as well as the opportunities Brahms provided, both in that work and in the B-flat Major (Op. 67), to show how sumptuously beautiful the sound of string instruments can be. First-movement repeats are, of course, taken in both works. In all, this is an eminently persuasive presentation, enhanced by a rich, well-indeed sonic frame.

### THE HEIFETZ

f you ever doubted that the treasures in RCA Victor's vaults are practically innumerable, consider the label's release in October of a sixtyfive-CD set of recordings by the leaendary violinist Jascha Heifetz, Arranged in forty-six volumes, this is the largest collection of récordings ever assembled to honor an instrumental performer. The more than three hundred selections, including concertos, chamber music, sonatas, and miniatures, encompass all of his recordings for RCA, EMI, and U.S. Decca, A special collector's booklet includes essays about Heifetz's recording legacy, rare photographs, and indexes to the recordings by composer, volume, and date. Executive Producer John Pfeiffer, who produced several of Heifetz's later recordings, was in charge of remastering the entire set



COPLAND: Grogh; Prelude for Chamber Orchestra; Hear Yel Hear Yel Cleveland Orchestra, London Sinfonietta,

Knussen
ARGO 443 203 (68 min)
Performance: Brocing
Recording: Excellent

ike the vampiric character it depicts.

"Grogh, an early ballet by Anon Copland, refuses to stay dead. Inspired by the 1921 German film Noferratu (the first Dracala movie), it was Copland's first major work—finished in 1925 in Paris, revised in 1932, and then, aside from one excerpt, lost. The composer said he didn't in mind, that it was an awful piece. But now that Grogh has been rediscovered and recorded here with revelatory confidence by the conductor/composer (Oliver Knussen, Copland's

appraisal seems dead wrong. The only thing that keeps this tremendously vital, inventive ballet from being among the best works of Copland's early period is its last third, which winds down into a second-rate Petrouchka. Not that Copland pales in comparison with Stravinsky, but there's a jarring stylistic inconsistency when he abandons the more individual language of the earlier parts, a language full of eerie, modal melodies, bracing dissonances, chilling pianissimos, and-most significant-impressive thematic transformations, Grown clearly points toward Copland's more serious later works, such as the Piano Variations, and there are orchestral effects that Leonard Bernstein seems to have picked up on for the gang-warfare sections of West Side Story. Were such ideas just in the air? Or was the score not so

"nost" after all?

The Prelude for Chamber Orchestra is simply a rescored movement from Copalad's First Symphony, Hear Fel Hear Yel, for a ballet about a murder trial, was quick-by written in 1924 for Ruth Page. The composer's infrequently heard sense of humon emerges in Versian snatches of humon that the dependent of the Star that depict the more vacuous characters. A find but lightweigh piece.

D.P.S.

DIAMOND: Symphony No. 8; Suite from the Ballet "TOM"; This Sacred Ground

Seattle Symphony and Chorale, Schwarz DELOS 3141 (69 min) Performance: Excellent Recording: Impressive

The find here is David Diamond's music for the unproduced ballet TOM, with a scenario by E. E. Cummings based on Harriet Beecher Stowe's classic anti-slavery novel. Uncle Tom's Cabin. It languished unheard until Gerard Schwarz conducted the première of a twelve-movement orchestral suite on July 4, 1981, at the Waterloo Festival in New Jersey. The story unfolds through a series of colorful dances and stylized chorale melodies in the vintage Americana manner. Diamond's music is tuneful almost to a fault, concisely dramatic where called for (as in the "Slavetraders and Human Bloodhounds" episode), and superbly

Listening to This Sacred Ground, a 1962 piece for chorus and orchestra whose text is Lincoln's Gettysburg Address, I admired the skill of the choral writing and Diamond's elegant command of canonic texture, but I also came to the rueful conclusion that Lincoln's words are so perfect in themselves that any attempt at musical rendering, however skillful, is doomed to failure. The choral performance is first-rate and beautifully balanced with the baritone solo (capably carried off by Erich Parce).

The two-movement Eighth Symphony, composed in Italy, is quite removed from the pleasing pandiatonics of TOM or the Rounds for String Orchestra. There is a closely argued first movement, complete with bipartite tone row and chromatic textures to match, but the work's overall rhythmic variety breathes none of the academic air that can sometimes cling to twelve-tone music. The contrapuntal textures are marvelously fluent without seeming merely facile, particularly in the forty-measure theme, seven variations, and fiery double fugue that make up the elaborate concluding movement.

Schwarz and his players give their all in both the ballet suite and the symphony, and the Delos sonics are magnificently rich and wide-ranging.



HAYDN: Salve Regina; Ave Reg Missa Brevis Sancti Joannis de Deo ("Little Organ Mass");

other sacred works Soloists: Tölzer Knabenchor: L'Archibudelli: Tafelmusik: Weil

SONY 53368 (59 min) Performance: Very good Recording: Generous

ranz Josef Haydn has taken a lot of heat over the centuries for writing sacred works that were too hearty and cheerful for liturgical use. But this CD proves that in his younger years he could be as sternly pious

# To Hell and Rack



Gluck's Orleo ed Euridice is the work that led opera—and, indeed, all of music-out of the Baroque and into the glories of Classicism. It caused a revolution in Vienna in 1762 and a row in Paris in 1774. In the end it triumphed over its detractors, and, often more respected than admired, it has never been out of the repertoire since.

And yet it turns out that we hardly even know the original opera. Gluck himself started its long revisionist history by adapting it from the original Italian into French, rewriting it considerably in the process. Later revisionists were even more cavaller, and these days the work is generally performed in a chopped-up version of the French edition.

Against all that, John Eliot Gardiner's beautifully recorded Orfeo ed Euridice on Philips offers the original Viennese version, in Italian, in all its pristine simplicity and Classicism. It is a revelation: an antique temple with the encrustations of time removed. The biggest problem is that the role of Orfeo was written for a male alto-that is, a castrato, a species of singer no longer with us. In modern times Orfeo has been sung by a mezzo-soprano. Gardiner's solution is to tune his orchestra low enough to bring the music within range of a special variety of high tenor voice. here that of the remarkable Derek Lee Ragin.

There is no doubt that the exquisite proportions of the work emerge with

clarity in this restoration. Mark Twain once said that Wagner's music is really better than it sounds. Gluck's music, it might be added, sounds better than it actually is, it lacks the richness, the virtuoso technique, and the dazzling wit of a Mozart or a Haydn. But it plays . . . and

plays and plays. Gardiner is scrupulous in his use of period instruments and performance practices (rhythmic niceties, beautiful ornamentation, and the like), and his reading brings out the opera's Classical balance and proportions. Yet, at the same time, the work's inherent dramatic strength is conveyed in the form of vigorous tempos, shades of dark and light, lightning bolts of sound set against distant and gentle echoes. The restored "recitatives"-all accompanied by the orchestra-turn out to be powerful musico-dramatic scenes. "Classical" does not have to mean wimpy

In the soprano roles, Sylvia McNair is appealing as Euridice, Cyndia Sieden somewhat arch-sounding as Amore. But the show belongs to Derek Lee Ragin, who invests Orleo with the kind of passion that you can believe would move the Furies. Here is the best proof that enlightened Classicism and emotional expression go very well together.

Eric Salzman

GLUCK: Orfeo ed Euridice Ragin, McNair, Sieden: Monteverdi Choir, English Baroque Soloists, Gardiner cond. PHILIPS 434 (993 (two CD's, 89 min)

## CLASSICAL MUSIC

respectively.

The disc culminates in the 1777 "Little

Organ Mest," whose nicksame should not be taken to imply modest artistic significance. A narveleously compressed piece of horal writing, it's very different price in the state of the stat

## MAHLER: Symphony No. 2

("Resurrection")
Studer; Meier; Arnold Schoenberg Choir;
Vienna Philharmonic, Abbado
DEUTSCHE GRAMMOPHON 439 953

# (two CD's, 87 min) Performance: Relatively detached Recording: Chorus recessed

whiler's Second Symphony has been a comerstone of Claudio Abbado's repertory from the very beginning of his career; Deutsche Grammophon transferred his 1976 recording with the Chicago Symphony to CD some time ago. Although the performance here was recorded in concert in Vienna; just two years ago, the Chicago version has clear advantages in respect to sonic

balance as well as interpretation.
Abbado's 1976 reading had greater intensity and thrust; despite the live recording, his approach here is more detached, more understated, more focused on technical polith than on emotional values. And while the earlier movements move along well enough, momentum tends to break down in the vast momentum tends to break down in the vast consent as to be not merely unintelligible but nearly insadible in the soft ossession.

The soloists—soprano Cheryl Studer and mezzo Waltraud Meier—Inte better in that respect. Moreover, their singing, and particularly Meier's posignant and communicative realization of the Urtlerk section preceding the finale, rather unfortunately show all too clearly, by contrast, what is missing in the many crimes but leaks the peculiarly Mahlerian strength that informed Abbado's Chilego recording. R.F.

## MOZART: Così Fan Tutte

Soloists; Edinburgh Festival Chorus; Scottish Chamber Orchestra, Mackerras TELARC 80360 (three CD's, 189 min)

Performance: Zesty and polished Recording: Excellent

I seems that for record producers at least, the Mozar bicentenial is still a going thing. But the initial impulse to grumble about ceaseless duplication is quickly mitigated by a performance with as much going for it as this Coxi, a byproduct of the Edinburgh Featival of 1993. Under the leadership of Charles Mackerras, the mais flows analysing the control of the Coxider of the C

While none of the six principals is a really exceptional vocalist, they all deserve praise for the triumphant ensemble they create. It is an unusually youthful-sounding cast; even Don Alfonso (Gillec Cachemaille) sounds like a youthful rake. And the amorous episodes, particularly the "Il core vi dono" of Dorabella (Marie McLaughlin) and Guglielmo (Alessandro Corbelli), are

charged with sexuality.

Everyone makes a laudable attempt to deliver the recitatives with clarity and meaning. Not surprisingly, Corbelli and Nuccia Focile (as Despina), the native Italians, excel in that respect, but the half-Italians Jerry Haddey (as Ferrando) is their equal. Focile, incidentally, displays a richer tone than the chirpy Despinas in several

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other recordings. I would have liked more contrast in the soprano timbres of Dorabella and Fiordiligi (Felicity Lott), and there are a few instances when Lott and Hadley allow their tones to lose focus. Otherwise, this finely chiseled ensemble has given us one of the best-balanced versions of this much-recorded opera.



**PUCCINI: Il Trittico** Soloists: Orchestra and Chorus of the Maggio

Musicale Fiorentino, Bartoletti LONDON 436 261 (three CD's, 162 min) Performance: Chilling, affecting, rousing Recording: Bright

ne needs three adjectives to describe a performance of Puccini's triptych, as each of the one-act operas elicits its own emotional response. This welcome recording is given unity by the sensitive conducting of Bruno Bartoletti, by the estimable work of the Maggio Musicale chorus and orchestra, and, especially, by Mirella Freni, who assumes the three soprano roles.

The violent action of Il Tabarro takes place on a barge on the Seine in Paris. The unfulfilled longings of Giorgetta, the lonely and jealous frustrations of her husband Michele, and the tormenting despair of her lover Luigi drive the plot ineluctably to its savage end. The music conveys these emotions with intense lyric exactitude. As Giorgetta, Freni sings with glowing warmth and strong dramatic conviction. Baritone Juan Pons is darkly brooding as Michele, and his well-sung confession of love is very moving. Tenor Giuseppe Giacomini's Luigi, while roughly sung in spots, is persuasively ardent

Suor Angelica, set in a strict Italian convent where a young noblewoman expiates the sin of bearing an illegitimate child, has some of Puccini's most beautiful and sophisticated writing. Freni poignantly captures Sister Angelica's spirituality and loneliness, and, in this performance at least, the miracle of her baby son's appearance after her suicide, accompanied by the singing of a heavenly choir, is wholly believable. As the Princess-aunt, the former soprano Elena Souliotis, here sonorously singing a nearcontralto role, is fittingly implacable.

Gianni Schicchi is the only operatic farce know of that works effectively throughout. The black comedy in the grasping relatives attempts' to thwart the last will and testament of their uncle-cousin, and the sly Gianni Schicchi's hoodwinking solution to the problem, is enhanced by some of Puccini's most infectious music. As Lauretta, Gianni's voune daughter. Freni sines her one aria, "O mio babbino caro," with girlish warmth and ardor. As her lover, Rinuccio. tenor Roberto Alagna voices his praise of Schicchi and the "new people" of Renaissance Florence in a stirring paean. Baritone Leo Nucci's performance as Schicchi is the only disappointment. He often slurs his words, and his characterization is a bit dour. The cast of relatives is admirable, and Colin Cue, in a cameo appearance as the doctor, Maestro Spinelloccio-with his affected Bolognese lisp-is delightful. R.A.

#### RACHMANINOFF:

Symphony No. 2: Vocalise St. Petersburg Philharmonic, Temirkanov RCA VICTOR 61281 (69 min)

# RACHMANINOFF:

Symphony No. 2; The Rock Russian National Orchestra, Pletney DELITSCHE GRAMMOPHON 439 888 (64 min) Performances: Study in contrasts

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nov's is luxuriantly expansive, even including the exposition repeat in the first movement (extending it to 22 minutes), while Mikhail Pletney's is of Toscaninian tautness. If you want your Rachmaninoff with all stops out. Temirkanov is your man. Even the string-orchestra version of the Vocalise that he offers by way of filler is stretched out to almost 9 minutes instead of its normal 5 minutes. The sound, from London's Henry Wood Hall, has plenty of body

and good inner detail. Pletney, whose Russian National Orchestra was recorded in the Great Hall of the Moscow Conservatory, gives us a brilliant and intense interpretation of the symphony, with a nervous rather than lyrically Romantic treatment of the opening movement. Unlike Temirkanov, he is a complete purist when it comes to the very end of the movement, declining to augment the doublebasses with timpani. There is some very stylish portamento at suitably strategic points in the scherzo and a white-hot climax to the slow movement. The finale is taut and in its own way exhilarating, and Pletney does not allow the big tune at the close to get out of hand. He also makes the best possible case for The Rock, an early study in Scriabinesque Romanticism. The sonics are spacious and bright.

#### SHOSTAKOVICH: Hypothetically Murdered, Suite; Pushkin Ro ments for Small Orchestra:

Suite No. 1 for Jaxx Band Kharitonov; City of Birmingham Symphony Orchestra, Elder

UNITED/ALLEGRO IMPORTS 88001 (71 min)

Recording: Hits the highs and lows nostakovich hit all the highs and all the lows in both his life and music, and the full manic range seems to be represented here. Hypothetically Murdered is a "lightmusic circus entertainment" written for Leonid Otiosov and his Tea-Jazz Ensemble, which had an all-star cast that included a performing dog (history does not say if Shostakovich wrote any arias for the dog). It was successfully performed at the Leningrad Music Hall in 1931 and then, like a lot of people in those days, unaccountably disappeared. Luckily, portions of the score were used elsewhere by the composer, and a folio of piano sketches survived in his papers. From those sources, Gerard McBurney reconstructed and orchestrated a rollicking suite from the score, which is here given its

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# QUICK

#### BARTOK: The Miraculous Mandarin; Concerto for Orchestra

Saint Louis Symphony, Slatkin RCA 61702 (70 min)

Barok's big showstoppers—one weird and expressions out of old Hungary, the other in a romantic Neoclassicism written in this country just before his death—are mid-European music in mid-American sylve: solid and vitrousor rather than decadent and alluring. An oddity is the abrupt original ending of the concerto, which familiar finish. Koussevitzky, who commissioned the piece, requested the new ending, and he was right; the second thought is much superior to the first. £S.

### **BEETHOVEN:** Symphonies Nos. 2

and 8

Royal Concertgebouw Orchestra, Sawallisch

EMI 5402 (60 min) Wolfgang Sawallisch is at his most persuasive in this robust yet well-tailored live recording of the Second Symphony, one of the finest to come along in years, its appeal enhanced more than a little by the warm, rich sound of the Concerngtown. The Eighth is solidly attractive, the control of the concerns of the control of the trichness—and its witry spell is broken by the apolause at the end.

#### HAYDN: Symphonies Nos. 45 ("Farewell"), 46, and 47

Tafelmusik, Weil SONY 53986 (68 min)

The "Farewell" Symphony is the one where the player pack up one by one, blow out their candles, and go home-during the performance! Tafelmusik, an excellent Canadian group directed by Bran to Well, gives lively accounts on period instruments of all three of these intense, and the contract of the contr



#### MOZART: Violin Sonatus (K. 296, 454, and 526) Isasc Stern: Yefim Bronfman

Isaac Stem: Yefim Bronfman SONY 53972 (62 min) There is a lifetime of affection and respect, expressed in the most enlivening terms, in Isaac Stern's playing of these sonatas, and a remarkably full and sympathetic partnership between him and pianist Yefim Broofman. Their convincing style refuses any notion that 'authentic' superiorists. The sonic focus is a little clore than ideal, but these are by any measure outstanding accounts of Mozaries. The finest works for these instruments. R.F. finest works for these instruments. R.F.

#### BALANESCU QUARTEY Luminitzo

MUTE STUMM 124 (51 min)

And the Authors of Command's in by Actional Commander Balanceacce, a round-faced Romanian violinist in a Blues Brothers hat and leader of the Balanceac Quarter, and the leader of the Balanceac Quarter and leader of the Balanceac Quarter and leader of the le



#### MANUEL BARRUECO Sometime Ago

ANGEL 55039 (55 min)

Arouat. 5009 OS 800)

Beginning and endom, centering on music of Chick Corea and Koth Jarrett, and including five folial Corea and Koth Jarrett, and including five folial Corea and Koth Jarrett, and including five folial control of the folial Corea and the Lahented fingers of Manuel Barrieco. In the notes he described his conversion to American bow classical it all sounds. Something is until the control of the Corea and Co

#### DAWN UPSHAW AND THOMAS HAMPSON Long Time Ago: American Songs

by Auron Copland Saint Paul Chamber Orchestra, Wolff TELDEC 77310 (61 min)

Flew big-time opera stars can bring to the art song as much subtlety, finessee, and interpretive skill as the bartione Thomas Hampson and the soprano Dawn Upshaw. In this ravishing program they raise Copland's Old American Songs and Eight Pomes of Emily Dickinson to the artistic level of nineteenth-century German lieder. William Livingstone.

recording première by Mark Elder and the Birmingham Symphony. The suite is a lot of fun, but it only whets my appetite for the complete work.

complete work. The Jazz Suite No. 1, the best-known piece here, was written a few years later, also for a so-called Russian jazz band (which had nothing to do with jazz). The five Fragments for Small Orchestra, serious and experimental but starkly beautiful, were also written in the mid-1930's, before the Stalinist attacks changed the composer's life. Only the four Pushkin Romances date from after his terrifying brush with the cultural commissars; the texts obviously refer to his trials and tribulations, and the music suggests determination amidst the gloom. Three of the orchestrations of these songs are by the composer, the fourth by McBurney.

the composer, the fourth by McBurney.
The performances are all evocative and lively, with a strong Kurt Weillian punch in the Jazz Suite that gives it some bite (usually the Shostakovich "jazz" pieces sound like Palm Court music with wrong notes). Dimitri Kharitonov sings the Pushkin Romances with a kind of restrained urenerv. E.S.

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Harbison's The Flue of Interior Time.
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missions, the concert, and the recordingwas the inspiration of Parker, whose own performances here are extraordinarily moving and who died not long afterward. E.S.

ALICIA DE LARROCHA

RCA VICTOR 61389 (70 min)

CA Victor has rather misleadingly titled this new disc by Alicia de Larrocha, today's preeminent champion of the Spanish keyboard repertory, "Spanish Serenade." Although one of the pieces is Manuel de Falla's early Serenata Andaluza. among the others are his keyboard masterwork Fantasía Bética and his very substantial Four Spanish Pieces. His stage works are represented by the Spanish Dance No. 1 from the opera La Vida Breve and his piano version of the sinfonía (overture) to the ballet El Retablo de Maesa Pedro (Master Peter's Puppet Show), which is recorded here for the first time.

Neither of Falla's memorial pieces for fellow composers (Debussy and Dukas) is



included, but there are two such gestures by Xavier Montsalvatge, rather remarkable little elegies for his compatriots Federico Mompou (who died as recently as 1987) and Oscar Esplá (1886-1976). The other components of the Montsalvatge half of the disc are his brief but intriguing Divagación, dedicated to Larrocha on the occasion of her marriage in 1950, the Sonatine pour Yvette, written two years later for his daughter's tenth birthday, and the concise and pungent Three Divertimentos "on themes by forgotten composers." The charming, witty Sonatine is fairly well known; the other pieces are very worthwhile discoveries, and none is likely to have a more persuasive advocate. The recording itself, made at the Troy Savings Bank Music Hall, is a model of realistic piano sound.

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short The recording itself, derived from a 30ips analog tape made in New York's Church of the Holy Trinity, is closely focused and seems to favor the darker hues of the cello. The piano, though well-balanced and clean in impact, also seems very close-almost too close in Op. 38, where the sound is full but lacks breathing space. The Op. 99 sonata and the Schumann and

NATHANIEL ROSEN Plays Brahms

aniel Rosen: Doris Stevenson JOHN MARKS RECORDS JMR 5 (70 min)

ne cellist Nathaniel Rosen's first substantial recorded excursion into the core German Romantic repertory is this CD of the two Brahms Cello Sonatas, filled out by Schumann's lovely Fantasy Pieces, Op. 73, and the only one of Mendelssohn's Songs Without Words scored for cello rather than solo piano, the Op. 109. The performances are highly successful in the case of the Brahms Sonata in F Major, Op. 99, as well as in the Schumann and Mendelssohn, less so in the first Brahms cello sonata, the one in E Minor, Op. 38. A good deal less listener-friendly than the open-hearted F Major. the E Minor has an opening movement that can seem downright dour. There is some relief in the bittersweet slow movement, but without real rhythmic impetus from the performers, the fugue-textured finale can come off as pedantic. That is just where I find Rosen and his otherwise highly capable keyboard partner, Doris Stevenson, falling

Mendelssohn pieces fall more gratefully on the ear. DH

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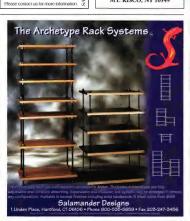
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# 30 Years Ago

In his November 1964 column, editor Furman Hebb reported from the New York High Fidelity Show. "The most obvious trend," he noted, "is toward transistorization. It seems unlikely, in fact, that more than a few tube-operated hi-fi products will be designed in the future."

New products this month included Artisan's threemanual Cinema electric-organ kit, Bogen's RT6000



The Empire Royal Grenadier speaker, 1964

60-watt stereo receiver (\$400), and Empire's Royal Grenadier 9000 speaker system with a rated bandwidth of 20 to 20,000 cps (Hz). In test reports, Julian Hirsch examined the \$240 Viking 77 stereo tape deck (open-reel), which he found "in many ways comparable to much more expensive recorders," and the Dual 1010 automatic turntable, which he said "offers a very high level of performance at its price of \$69.50."

Tea Leaves of the Gods: In "The Hi-F System of the Future," Kern Gilmore was right on the money when he predicted that digital recordings would be all the rage in twenty-five years would be mass-produced on film rather than plastic discs). He also noted that "the biggest problem to be solved in marketing such recordings would be finding a place to put the program notes."



# 20 Years Ago

Future member of "The Three Tenors" Luciano Pavarotti told editor William Livingstone that "Italian is the perfect language for singing."

In Best of the Month, James Goodfriend flipped for RCA's Hansel and Gretel with Anna Moffo and Helen Donath ("This strikes me as well-nigh perfect"), and Chris Albertson applauded Keith Jarrett's "Solo Concerts Bremen/Lausanne"

on ECM ("The finest new album of jazz piano I've heard in twenty years"). Elsewhere in the review sections, Peter Reilly dismissed "Some Nice Things I've Missed" by Frank Sinatra ("His voice is thinning as rapidly as his hair"), Eric Salzman panned a CRI disc of concert music by 1973 Naumburg Award winners ("None of it is very likable or even very important"), and Noel Coppage observed of Arthur Brown's "Journey" that "You'd have to be on something pretty strong to stay with it all the way."

Among the new products in

this issue were Altec's Stonehenge III, the second in the company's series of floor-standing column speakers, the Wollensak Model 8080 eight-track tape deck with Dolby noise reduction B&O's Model 4002 automatic single-play turntable with CD-4 cartridge, and the Sony TC-177SD three-head cassette deck with a rated bandwidth of 20 Hz to 20 kHz using ferrichrome tape. In test reports. Julian Hirsch checked out the Phase Linear 4000 stereo preamp, Scott's R77S stereo receiver, and the Tandberg 9200XD three-speed open-reel tape deck, which he said "makes virtually perfect recordings at all three speeds."

Reviewing Marie Osmond's "In My Little Corner of the World," Peter Reilly said it illustrated "one of the burning



social imperatives of our day that is, the Osmonds must be forced to cease breeding for the sanity and well-being of all of us."



# 10 Years Ago

In the issue's cover story, Fred Petras examined state-of-theart hi-fi VCR's, from the Panasonic PV-1730 (a VHS machine going for \$1,400) to the Sony SL-2700 (a \$1,500 Beta machine) and concluded. "Once you've heard a hi-fi tape in a hi-fi VCR through a good audio system, there's no going back." New products included KEF's 104/2 speaker. with two woofers mounted in acoustic-suspension subenclosures, and JVC's XL-V2 CD player, which could cue up any track within 2 seconds. Julian Hirsch tested Polk Audio's SDA Compact Reference speaker system and gave it this accolade: "It was easy to forget that we were hearing speakers at all . . . . this is what hi-fi is all about."

Oh, Those Fabulous Eighties! Reviewing "The Story of a Young Heart" by early MTV fashion victims A Flock of Seagulls, critic Mark Peel noted that they had "the worst hair in New Music today."

Steve Simels



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